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from his Mother
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NATURAL HISTORY

OF

ANIMALS.

ILLUSTRATED BY SHORT HISTORIES AND ANECDOTES;

AND INTENDED TO AFFORD

A POPULAR VIEW OF THE LINNÆAN SYSTEM OF
ARRANGEMENT.

FOR THE USE OF SCHOOLS.

BY THE

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FELLOW OF THE LINNÆAN SOCIETY, AND LATE OF PETERHOUSE, CAMBRIDGE.

Embellished with Engravings.

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PREFACE.

THE following pages were commenced solely in the hope of affording such a simple, and, at the same time, such a systematical introduction to the Linnean System of Zoology, as might induce young persons to an earnest pursuit of the study of Natural History. It has ever been a principal object and endeavour of the author of this little work to extend, as widely as lay in his power, the knowledge of this interesting science; because he knows it to be fraught with the most sublime and important instruction. It not only affords us a clear and comprehensive proof of the existence of an Almighty Being, and supplies us with the fullest and most satisfactory demonstrations of his wisdom and goodness, but also furnishes us with abundant sources of observation, of reflection, and comfort, which are applicable to us under every circumstance, and in every condition of life.

It would not have been difficult to have rendered the present publication more scientific; but this, as the author conceives, would, in a great degree, have prevented it from answering the purpose which he had most at heart. It is merely intended as an in-

troductioꝛ to more extensive works on the same subject, which will afford the requisite information to minds sufficiently matured.

With respect to the mode of arrangement that has been adopted, the author wishes to observe, that the Systematic Index at the commencement of the work contains an account of the classes, orders, and tribes of animals, in language as simple, and as free from technical phraseology, as he has found it possible to adopt. In the account of the respective animals, his plan has been, first, to insert a short history of their habits and economy ; and at the conclusion of each, in a separate paragraph, to give a concise but methodical description of their form and appearance.

To two particulars he has been studiously attentive. He has inserted no subject whatever which can, in any respect, prove offensive to the most delicate female mind.— And it has, throughout, been his constant endeavour to divert the attention from second causes, and to turn it to the Almighty and only Source of Being, Power, and Truth.

“If men are astonished at the power and works of God, let them understand by them how much mightier is he that made them. For, by the greatness and beauty of the creatures, proportionably the Maker of them is known.”

Wisdom of Solomon.

A SYSTEMATIC INDEX,

COMPRISING THE

CHARACTERS OF THE CLASSES, ORDERS, AND TRIBES OF ANIMALS.

CLASS I. MAMMIFEROUS ANIMALS.

THESE all nourish their offspring with milk supplied from their own bodies.

They consist of QUADRUPEDS and WHALES, and are divided into seven orders.

ORDER I. PRIMATES.

These have the upper front teeth, generally four in number, wedge-shaped, and parallel; and two teats situated on the breast.

1. *Ape tribe*.—Have in each jaw four front teeth; and the canine teeth, or tusks, are separate from the others.

The feet are formed like handspage 1

Oran Otan	1	Chinese Monkey	5
Chimpanzee	3	Long-nosed Monkey	ib.
Long-armed Ape	ib.	Mandrill	ib.
Pigmy ape	ib.	Full-bottom Monkey	6
Common Baboon	4	Four-fingered Monkey....	ib.
Green Monkey	5	Striated Monkey	ib.

2. *Lemur tribe*.—Have, in the lower jaw, six front teeth; and the canine teeth close to the others. The feet are formed like hands

7

Slow Lemur 7 | Ring-tailed Macauco 8

3. *Bat tribe*.—Have the toes of the fore-feet extremely long, and connected together by a membrane which extends round the hinder part of the body

8

Common Bat	8	Vampyre Bat.....	10
Long-eared Bat	9		

ORDER II. BRUTA.

These have no front teeth in either jaw ; and the feet are armed with strong hoof-like nails.

4. *Sloth tribe*.—Have neither front nor canine teeth ; and the two anterior grinders longer than the rest. The body is covered with hair.....page 10
 Three-toed Sloth..... 11
5. *Ant-eater tribe*.—Have no teeth. The mouth is long and tubular ; and the body hairy..... *ib.*
 Great Ant-eater 12 | Two-toed Ant-eater..... 12
6. *Platypus tribe*.—Have the mouth shaped like the bill of a duck ; and the feet webbed 13
 Duck-billed Platypus *ib.*
7. *Manis tribe*.—Have no teeth. The mouth is very small, and the body is covered with scales 14
 Long-tailed Manis *ib.*
8. *Armadillo tribe*.—Have grinders, but no canine or front teeth. The body is covered with a crustaceous shell.... 15
 Three-banded Armadillo .. 15 | Six banded Armadillo 16
9. *Rhinoceros tribe*.—Have a horn on the middle of the forehead ; and three hoofs on each foot..... *ib.*
 Single-horned Rhinoceros. . 16 | Two-horned Rhinoceros .. 18
10. *Elephant tribe*.—Have tusks and grinders, but no front teeth. The snout is lengthened into a flexible trunk.... *ib.*
 Elephant *ib.*
11. *Walrus tribe*.—Have tusks in the upper jaw. The lips are doubled ; and the hind legs stretch backward, and form a kind of fin 22
 Arctic Walrus..... *ib.*

ORDER III. FERÆ.

These have, in general, six front teeth in each jaw ; and a single tusk, or canine tooth, on each side in both jaws.

12. *Seal tribe*.—Have six front teeth above and four below. The feet are webbed 23
 Common Seal 23 | Ursine Seal..... 24
 Bottle-nosed Seal, or Sea-lion 25

13. *Dog tribe*.—Have six front teeth in each jaw; the intermediate ones in the upper jaw are lobed. The claws are blunt, and not lodged in sheathspage 25
- | | | | |
|----------------------------------|-----|---------------------------|-----|
| Common Dog | 25 | 10. <i>Mastiff</i> | 28 |
| 1. <i>Shepherd's Dog</i> | 26 | 11. <i>Bull Dog</i> | ib. |
| 2. <i>Water Dog</i> | ib. | 12. <i>Terrier</i> | ib. |
| 3. <i>Spaniel</i> | 27 | 13. <i>Lurcher</i> | ib. |
| 4. <i>Setter</i> | ib. | 14. <i>Turnspit</i> | 29 |
| 5. <i>Pointer</i> | ib. | Wolf | 30 |
| 6. <i>Hound</i> | ib. | Hyæna | ib. |
| 7. <i>Bloodhound</i> | ib. | Jackal | 31 |
| 8. <i>Irish Greyhound</i> | ib. | Fox | 32 |
| 9. <i>Common Greyhound</i> | 28 | Arctic Fox | 33 |
14. *Cat tribe*.—Have six front teeth in each jaw; the lower ones equal. The claws are sharp, and lodged in a sheath 34
- | | | | |
|---------------|-----|----------------------------|-----|
| Lion | 34 | Margay | 39 |
| Tiger | 36 | Wild Cat | ib. |
| Panther | 37 | <i>Domestic Cat</i> | ib. |
| Leopard | 38 | Common Lynx | 41 |
| Ounce | ib. | Persian Lynx, or Caracal.. | 42 |
| Puma | ib. | | |
15. *Weasel tribe*.—Have six front teeth in each jaw, the intermediate ones shorter than the others. The claws are blunt, and not lodged in sheaths 42
- | | | | |
|---------------------|-----|------------------------|-----|
| Ichneumon | 42 | Pine Martin | 46 |
| Coati Mondí | 43 | Sable | 48 |
| Skunk | 44 | Polecat | 49 |
| Civet | 45 | Ferret | ib. |
| Genet | 46 | Common Weasel | 50 |
| Common Martin | ib. | Stoat and Ermine | 51 |
16. *Otter tribe*.—Have six front teeth in each jaw. The feet are webbed 52
- | | | | |
|--------------------|----|-----------------|----|
| Common Otter | 52 | Sea Otter | 53 |
|--------------------|----|-----------------|----|
17. *Bear tribe*.—Have six front teeth in each jaw, the upper ones hollowed on the inside. The snout is prominent, and the claws are very long 54
- | | | | |
|---------------------------|----|---------------|-----|
| Black Bear | 54 | Glutton | 57 |
| White or Polar Bear | 55 | Racoon | ib. |
| Common Badger | 56 | | |
18. *Opossum tribe*.—Have ten front teeth above, and eight below. Most of the females have a pouch upon the belly for their young 68
- | | |
|-------------------------|----|
| Virginian Opossum | 59 |
|-------------------------|----|

19. *Kangaroo tribe*.—Have six front teeth above, and two below. The fore legs are much shorter than the others; and most of the females have a pouch upon the belly for their youngpage 60
 Great Kangaroo ib.
20. *Mole tribe*.—Have six front teeth above, and eight below. The fore legs are much stronger than the others 61
 Common Mole ib.
21. *Shrew tribe*.—Have two front teeth above, and four below. 63
 Common Shrew..... 63 | Pigmy Shrew ib.
22. *Urchin tribe*.—Have two front teeth in each jaw. The body is beset with bristles 64
 Hedge-hog ib.

ORDER IV. GLIRES.

These have no canine teeth, or tusks, in either jaw. They have two long front teeth in each jaw, standing close together, but at a distance from the grinders.

23. *Porcupine tribe*.—Have the body covered with long spines 65
 Common Porcupine ib.
24. *Cavy tribe*.—Have the front teeth wedge-shaped, and four grinders on each side. No collar-bones..... 66
 Guinea Pig ib.
25. *Beaver tribe*.—Have the upper front teeth wedge-shaped; and four grinders on each side. The tail is flat and scaly. They have collar-bones 67
 Common Beaver..... 67 | Chilese Beaver 69
26. *Rat tribe*.—Have the upper front teeth wedge-shaped; and three or two grinders on each side. They have collar-bones..... 69
 Musk Rat 69 | Field Mouse 71
 House Rat 70 | Lemming 72
 Water Rat ib. | Hamster ib.
 Common Mouse 71
- 27.—*Marmot tribe*.—Have two wedge-shaped front teeth in each jaw; and five grinders on each side above, and four below. They have collar-bones 74
 Alpine Marmot ib.

28. <i>Squirrel tribe</i> .—Have two wedge-shaped front teeth above, two pointed ones below; and five grinders on each side above and four below. They have collar-bones; and the hair of the tail spreads towards each side	page 75
Common Squirrel	75 Flying Squirrel
29. <i>Dormouse tribe</i> .—Have long whiskers; and the tail round, and thick at the extremity	ib.
Common Dormouse	ib.
30. <i>Jerboa tribe</i> .—Have very short fore, and very long hind legs. The tail is long, and tufted at the end	77
Siberian Jerboa	ib.
31. <i>Hare tribe</i> .—Have the upper front teeth double	78
Common Hare	78 Rabbit.....
	79

ORDER V. PECORA.

These have no front teeth in the upper jaw; six or eight front teeth in the lower jaw, situated at a considerable distance from the grinders; feet with hoofs.

32. <i>Camel tribe</i> .—Have no horns. There are several tusks on each side of both jaws. The upper lip is cleft.....	80
Arabian Camel	80 Lama.....
Bactrian Camel	ib. 81
33. <i>Musk tribe</i> .—Have no horns. The canine teeth are solitary, and those in the upper jaw project out of the mouth	32
Thibetian Musk	ib.
34.— <i>Deer tribe</i> .—Have horns solid and branched. There are no tusks in either jaw	83
Elk, or Moose Deer	84 Fallow Deer
Rein Deer	ib. Roe
Stag, or Red Deer	85 83
35. <i>Giraffe tribe</i> .—Have horns short, and terminated with a tuft of black hair. The fore legs are much longer than the others	89
Camelopard, or Giraffe	ib.
36. <i>Antelope tribe</i> .—Have horns, solid and unbranched. There are no tusks in either jaw	90
Chamois	90 Pigmy Antelope.....
Nyl Ghau	91 92

37. <i>Goat tribe</i> .—Have hollow erect horns; and the chin bearded. No tusks.....	page	92
Common Goat	92 Ibex	93
38 <i>Sheep tribe</i> .—Have hollow horns, which bend backward. No tusks		94
Common Sheep	94 Argali, or Mouflon.....	95
39. <i>Ox tribe</i> .—Have hollow, smooth, and extended horns. No tusks		96
Common Bull and Cow....	96 Buffalo	97
Surat Ox.....	97 Cape Buffalo	98

ORDER VI. BELLUÆ.

These have obtuse, wedge-like front teeth in both jaws; and feet with hoofs.

40. <i>Horse tribe</i> .—Have six front teeth in each jaw	99
Common Horse	99
Ass.....	101
Zebra	102
Quagga	103
Cloven-hoofed Horse.....	ib.
41. <i>Hippopotamus tribe</i> .—Have four front teeth in each jaw. The feet have hoofs at the margins	104
Hippopotamus, or River Horse	ib.
42. <i>Tapir tribe</i> .—Have ten fore teeth in each jaw; and four hoofs on the fore feet, and three on the hind ones	105
Long-nosed Tapir	ib.
43. <i>Hog tribe</i> .—Have four front teeth above, and six below. The snout is flat at the end, prominent, and moveable ..	106
Common Hog	106
Pecary	107
Ethiopian Hog	108
Babyroussa.....	109

ORDER VII. CETE, or WHALES.

These have spiracles, or breathing-holes, on the upper part of the head; no feet, but instead of these they have pectoral fins, destitute of nails; tail horizontally flattened.

44. <i>Narwal tribe</i> .—Have two straight and extended bony teeth in the upper jaw. The spiracle, or breathing-hole, is on the fore and upper part of the head.....	110
Unicorn Narwal, or Sea Unicorn	ib.

45. *Whale tribe*.—Have horny laminae, or plates, in the upper jaw, in place of teeth. The spiracle has a double opening on the crown of the headpage 111
 Great Whale 111 | Fin-backed Whale..... 113
46. *Dolphin tribe*.—Have bony teeth in both jaws. The spiracle is on the fore and upper part of the head 114
 Common Dolphin 114 | Grampus 115
 Porpesse *ib.*

CLASS II. BIRDS.

Birds are distinguished from all other animals by having their bodies covered with feathers, which lie over each other like tiles on the roof of a house. Their organs of motion are two wings and two legs. The mouth is hard and solid, and has the name of beak, or bill. Their offspring are produced from eggs.

They are divided into six orders.

ORDER I. ACCIPITRES, OR, RAPACIOUS BIRDS.

The upper mandible of the bill has an angular projection, or is dilated a little on each side near the point.

1. *Vulture tribe*.—Have the bill hooked at the end; and the head naked 116
 Condur 116 | Aquiline Vulture 117
2. *Falcon tribe*.—Have the bill hooked at the end, and its base covered with a *cere*, or naked skin 118
 Golden Eagle 118 | Gentil Falcon 120
 Sea Eagle 119 | Kite, or Glead 121
 Osprey *ib.* | Sparrow Hawk 122
 Buzzard 120 | Kestrel 123
 Gyrfalcon *ib.*
3. *Owl tribe*.—Have the bill hooked at the end, and a frontlet of reversed bristles 124
 Great-horned Owl 124 | Screech Owl..... 125
 Short-eared Owl..... *ib.* | Little Owl 126

ORDER II. PIES.

In these the bill is somewhat compressed at the sides, and convex on the top.

4. *Shrike tribe*.—Have the bill almost straight, and notched near the endpage 127
 Great Shrike 127 | Red-backed Shrike..... 128
5. *Parrot tribe*.—Have a hooked bill, fleshy tongue, and feet formed for climbing *ib.*
 Brazilian Green Macaw.... 128 | Yellow-crested Cockatoo .. 129
 Common Ash-coloured Parrot 130
6. *Toucan tribe*.—Have the bill serrated at the edge, a feathery tongue, and feet formed for climbing 131
 Red-bellied Toucan..... 131 | Toco 132
7. *Hornbill tribe*.—Have the bill serrated at the edge, a horny protuberance on the forehead, and feet formed for walking *ib.*
 Abyssinian Hornbill..... 132 | Malabar Hornbill *ib.*
8. *Crow tribe*.—Have a sharp-edged bill, the nostrils covered with reversed bristly feathers, and feet formed for perching 134
 Raven 134 | Jackdaw 137
 Common or Carrion Crow . 135 | Jay 138
 Rook..... *ib.* | Magpie *ib.*
 Hooded or Royston Crow.. 136 | Cornish Chough 139
9. *Bird of Paradise tribe*.—Have the bill with sharpish edge, a silky frontlet, and feet formed for perching 13
 Greater Bird of Paradise.. 140 | King Bird of Paradise 141
10. *Cuckoo tribe*.—Have the bill smooth, a rim round the nostrils, and feet formed for climbing 141
 Common Cuckoo 141 | Bee Cuckoo..... 143
11. *Woodpecker tribe*.—Have an angular bill, a worm-shaped tongue, and feet formed for climbing 144
 Green Woodpecker..... 144 | Greater Spotted ditto 145
12. *Wryneck tribe*.—Have a smooth bill, a worm-shaped tongue, and feet formed for climbing 145
 Common Wryneck *ib.*
13. *Kingfisher tribe*.—Have a straight triangular bill, and feet formed for walking 146
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14. <i>Hoopoe tribe</i> .—Have a bluntish bill, curved downwards, and feet formed for perching.....	page 148
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15. <i>Creeper tribe</i> .—Have a sharp-pointed bill, curved downwards, and feet formed for perching	149
Common Creeper	<i>ib.</i>
16. <i>Humming-bird tribe</i> .—Have a slender bill, tubular at the end, and curved downwards, and feet formed for perching	150
Least Humming-bird	150 Red-throated ditto 151

ORDER III. PASSERINE BIRDS.

In these the bill is conical and pointed ; and the nostrils are oval, open, and naked.

17. <i>Star tribe</i> .—Have the bill straight, slender, and tapering, somewhat flattened at the end	152
Starling	<i>ib.</i>
18. <i>Thrush Tribe</i> .—Have the bill tapering and pointed, the upper mandible notched on each side near the end, and the base flattened at the sides.....	152
Song Thrush, or Throstle 152 Blackbird	153
Fieldfare	153
19. <i>Grosbeak tribe</i> .—Have the bill very thick at the base, and of a conical form, being convex both above and below ..	154
Crossbill	154 Greenfinch
Bullfinch.....	155 Sociable Grosbeak
	156
20. <i>Bunting tribe</i> .—Have the bill thick and somewhat conical, its under mandible broader than the upper one, and turned inward at the edges	157
Yellow Hammer	157 Ortolan
	<i>ib.</i>
21. <i>Finch tribe</i> .—Have a bill thick, conical, and sharp-pointed	158
Chaffinch.....	158 Common Linnet
Goldfinch	159 Common Sparrow
Canary Bird	<i>ib.</i>
22. <i>Fly-catcher tribe</i> .—Have a bill tapering, pointed, the upper mandible notched near the end, and the base flattened and fringed with bristles	161
Spotted Fly-catcher	<i>ib.</i>

23. *Lark tribe*.—Have the bill straight, slender, and tapering; the tongue cloven; and the claw of the back toe very longpage 162

Sskylark..... 162 | Woodlark 163

24. *Warbler tribe*.—Have the bill straight, slender, and tapering; the end of the tongue appearing as if torn; and the tail long..... 163

Nightingale..... 163 | Hedge Sparrow 166

Common Wagtail 164 | Blackcap *ib.*

Wheatear 165 | Wren *ib.*

Redbreast *ib.*

25. *Swallow tribe*.—Have the bill short, broad at the base, flattened, sharp-pointed, and somewhat hooked 167

Chimney Swallow 167 | Sand Martin 168

House Martin..... 168 | Swift 169

26. *Pigeon tribe*.—Have the bill weak, slender, straight at the base, and a little protuberant near the end, where the nostrils are lodged 169

Stockdove and Common } 169 | Ring-dove 170
Pigeon..... } | Turtle-dove *ib.*

ORDER IV. GALLINACEOUS BIRDS.

The bill of these birds is convex, the upper mandible arched, and covering the lower one at the edge. The tail-feathers are more than twelve in number. The feet are not webbed, but are connected at the innermost joint.

27. *Turkey tribe*.—Have the face and neck covered with naked, warty flesh 171

Common Turkey..... *ib.*

28. *Peacock tribe*.—Have the bill short, strong, and convex; and the crown ornamented with an erect crest of feathers 172

Common Peacock..... *ib.*

29. *Pheasant tribe*.—Have the cheeks naked and smooth 173

Common Pheasant..... 173 | Domestic Cock and Hen .. 174

30. *Pintado tribe*.—Have two pendant wattles at the base of the bill 175

Guinea Fowl..... *ib.*

31. *Grouse tribe*.—Have the bill strong, short, and convex ;
and, above each eye, a naked, coloured skinpage 176
- | | | | |
|-------------------|-----|----------------|-----|
| Black Grouse..... | 176 | Partridge..... | 178 |
| Red Grouse | 177 | Quail | 179 |
| Ptarmigan | ib. | | |
32. *Bustard tribe*.—Have the bill somewhat convex, and the
tongue notched. The feet have no back toe 180
- Great Bustard..... ib.
33. *Ostrich tribe*.—Have the bill conical, and the wings not
formed for flying 181
- Great Ostrich..... 181 | Cassowary 182

ORDER V. WADERS.

The bill of these birds is roundish, and somewhat blunt. The
tongue is entire and fleshy. The legs are naked above the
knees.

34. *Flamingo tribe*.—Have the bill bent, as if broken ; and
the feet webbed 183
- Red Flamingo ib.
35. *Spoonbill tribe*.—Have the bill long, broad, flat, thin, and
much widened at the end 184
- White Spoonbill ib.
36. *Heron tribe*.—Have the bill long, strong, straight, and
sharpish 185
- | | | | |
|--|-----|--------------------|-----|
| Common Crane | 185 | Common Stork | 187 |
| Numidian Crane, or De- }
moiselle | 186 | Heron | 188 |
| | | Bittern | 189 |
37. *Snipe tribe*.—Have the bill straight, long, roundish, and
somewhat blunt 189
- | | | | |
|----------------|-----|--------------------|-----|
| Curlew..... | 190 | Common Snipe | 191 |
| Woodcock | ib. | | |
38. *Sandpiper tribe*.—Have the bill straight, roundish, and
blunt. The back toe hardly reaches the ground 192
- | | | | |
|---------------------------|-----|------------------------|-----|
| Ruff and Reeve | 192 | Common Sandpiper | 193 |
| Lapwing, or Pee-wit | 193 | | |
39. *Plover tribe*.—Have the bill straight and roundish. The
feet have no back toe..... 194
- | | | | |
|---------------------|-----|-----------------------------|-----|
| Dotterel | 194 | Long-legged or Stilt Plover | 195 |
| Golden Plover | ib. | | |

40. *Rail tribe*.—Have the bill somewhat ridged on the back.
The body is flattened at the sides.....page 195
Land Rail, or Corn Crake.. 196 | Water Rail..... 196

ORDER VI. SWIMMERS.

The bill of these birds is somewhat blunt, covered with a skin, and swollen at the base. The feet are webbed, and formed for swimming.

41. *Duck tribe*.—Have a broad bill, with a nail at the point of the upper mandible; and sharp teeth at the edges.... 197
Wild Swan 197 | Eider Duck 200
Tame Swan..... *ib.* | Teal 201
Wild Goose & Tame Goose 198 | Widgeon..... *ib.*
Wild Duck & Tame Duck 199
42. *Auk tribe*.—Have the bill flattened at the sides, with transverse lateral wrinkles. The feet have only three toes 201
Puffin Auk 201 | Razor-bill 202
43. *Penguin tribe*.—Have the bill straight, narrow, furrowed at the sides, and a little bent downward at the point. The wings resemble fins, and are useless for flight..... 203
Crested Penguin *ib.*
44. *Petrel tribe*.—Have the bill straight, and hooked at the end; and the nostrils resemble a tube lying on the base of the bill. The feet have each a spur in place of a back toe 204
Stormy Petrel *ib.*
45. *Albatros tribe*.—Have the lower mandible abrupt, and the upper one hooked at the end. The feet have each three toes 205
Man-of-war Bird *ib.*
46. *Pelecan tribe*.—Have the face naked. A skinny bag hangs down from the under mandible 206
White Pelecan 206 | Shag 207
Cormorant 207 | Gannet, or Solan Goose .. 208
47. *Diver tribe*.—Have the bill straight, strong, and pointed; and the edges of the mandibles bending inward 209
Northern Diver 210 | Red-throated Diver 210
Great-crested Grebe..... *ib.*

48. *Gull tribe*.—The under part of the lower mandible, near the point of the bill, is prominentpage 211
 Common Gull..... 211 | Kittiwake 212

CLASS III. AMPHIBIOUS ANIMALS.

These animals have a cold and generally naked body. Their colour is lurid, and smell nauseous. A few of them are furnished with a horrid poison.

They are divided into two orders.

ORDER I. REPTILES.

With feet.

1. *Tortoise Tribe*.—Have four feet, and the body covered with a shell 212
 Common Tortoise 212 | Imbricated Turtle 214
 Common Turtle..... 213 |
 2. *Frog tribe*.—Have four feet; and the body naked, and without tail 214
 Common Frog..... 215 | Common Toad 217
 Edible Frog *ib.* | Pipa *ib.*
 Bull Frog 216 |
 3. *Lizard tribe*.—Have four feet; the body naked, or scaly, and with a tail..... 218
 Crocodile..... 218 | Green Lizard 221
 Alligator *ib.* | Chameleon *ib.*
 Guana 219 | Salamander 222
 Nimble Lizard 220 |

ORDER II. SERPENTS.

Without feet.

- 4 *Rattlesnake tribe*.—Have a rattle at the end of the tail 222
 Banded Rattlesnake 223
 5. *Boa tribe*.—Have plates on the belly and tail, and no rattle 224
 Great or Gigantic Boa *ib.*

6. <i>Snake tribe</i> .—Have plates on the belly, and scales on the tail	page	224
Viper, or Adder	225	
Common Snake	226	
Hooded Snake	226	
Whip Snake	227	

CLASS IV. FISHES.

The Fishes are all inhabitants of the water. They breathe by means of gills; and their organs of motion are called fins. Their bodies are generally covered with scales. Most of them have in their body an air-bladder, which is of use in their rising or sinking in the water.

They are divided into six orders.

ORDER I. APODAL FISH.

These have bony gills; and no ventral fins.

1. <i>Eel tribe</i> .—Have the aperture of their gills at the sides of the thorax; and the body round, smooth, and slimy ..	227
Common Eel	228
Conger Eel	228
2. <i>Gymnotus tribe</i> .—Have no dorsal fin, and the body eel-shaped, but somewhat compressed	229
Electric Gymnotus or Eel	ib.
3. <i>Wolf-fish tribe</i> .—Have the head rounded and blunt; and the teeth extremely large and rounded	230
Ravenous Wolf-fish	ib.
4. <i>Sword-fish tribe</i> .—Have the upper jaw long, hard, and sword-shaped	231
European Sword-fish	ib.

ORDER II. JUGULAR FISH.

These have bony gills; and the ventral fins situated in front of the pectoral fins.

5. <i>Cod tribe</i> .—Have the pectoral fins slender, and tapering to a point	232
Common Cod	232
Haddock	234
Whiting	235
Pollack	ib.
Hake	236
Ling	ib.
Burbot	237

ORDER III. THORACIC FISH.

These have bony gills; and the ventral fins situated directly under the thorax.

6. *Sucking-fish tribe*.—Have the back of the head flat, naked, and furrowed acrosspage 238
 Common Sucking-fish, or Remora *ib.*
7. *Bull-head tribe*.—Have the head broader than the body; and the body without scales 239
 Father Lasher 239 | Miller's Thumb 240
8. *Dorée tribe*.—Have the upper lip arched by a transverse membrane; and the body compressed, thin, and shining . 241
 John Dorée 241 | Opah, or King-fish 242
9. *Flat-fish tribe*.—Have both their eyes on one side of the head; the body flat, the upper part convex and coloured, and the lower part flat and pale 242
 Holibut..... 243 | Dab 244
 Flounder *ib.* | Sole 245
 Plaise 244 |
10. *Perch tribe*.—Have the covers of the gills three-leaved, the upper ones serrate at the edges. The fins are spinous, and the scales are hard and rough 246
 Common Perch 246 | Basse 247
 Ruffe..... 247 |
11. *Stickleback tribe*.—Have the tail with a ridge at the sides, and distinct prickles in front of the dorsal fin 248
 Three-spined Stickleback.. 248 | Pilot-fish 249
12. *Mackerel tribe*.—Have the tail with a ridge at the sides, and several small and distinct fins betwixt the dorsal fin and the tail.... 250
 Common Mackerel 250 | Scad 252
 Thunny, or Albicore..... 251 |
13. *Surmullet tribe*.—Have the body and gill-covers with large and loose scales 253
 Red Surmullet *ib.*
14. *Gurnard tribe*.—Have the head large, angular, and bony; and two or more distinct appendages near the pectoral fins..... 253
 Gray Gurnard 253 | Flying Gurnard..... 254

ORDER IV. ABDOMINAL FISH.

These have bony gills; and the ventral fins placed on the belly, behind the thorax.

15. <i>Salmon tribe</i> .—Have the hindmost dorsal fin fleshy ..	page	254
Common Salmon	255	Char..... 257
Salmon or Sea Trout	256	Smelt 258
Common or River Trout ..	ib.	Umber, or Grayling ib.
16. <i>Pike tribe</i> .—Have the upper jaw much shorter than the lower one; the head flattish above; and the mouth and throat large		259
Common Pike.....	259	Gar Pike 260
17. <i>Flying-fish tribe</i> .—Have the pectoral fins as long as the body		261
Common Flying-fish		ib.
18. <i>Herring tribe</i> .—Have the belly with a ridge, and generally jagged, or serrate, underneath		261
Common Herring	262	Sprat 263
Pilchard	263	Anchovy 264
19. <i>Carp tribe</i> .—Have three bony rays in the membrane of the gills		265
Common Carp.....	265	Minow 267
Barbel	ib.	Dace..... 268
Gudgeon	266	Roach ib.
Tench	ib.	Bream 269
Gold-fish	267	

ORDER V. BRANCHIOSTEGOUS FISH.

These have their gills without bony rays.

20. <i>Tetrodon tribe</i> .—Have no ventral fins; and the belly armed with numerous spines.....		269.
Short Sun-fish	269	Globe Diodon..... 270
21. <i>Pipe-fish tribe</i> .—Have no ventral fins; the body covered with a strong crust; and the snout long, cylindrical, and turned up at the end		270
Shorter Pipe-fish	270	Sea-horse Pipe-fish..... 271
22. <i>Sucker tribe</i> .—Have two ventral fins, united into an oval concavity, which forms an instrument of adhesion		271
Lump Sucker		272

23. *Fishing-frog tribe*.—Have two ventral fins, which somewhat resemble feet. The head is large, and compressed downward.....page 272
Common Angler, or Frog-fish ib.

ORDER VI. CHONDROPTERYGIOUS FISH.

These have cartilaginous gills.

24. *Sturgeon tribe*.—Have two ventral fins; and the mouth situated under the head, and without teeth. The body is angular, and has several rows of large bony plates 273
Common Sturgeon.....273 | Beluga 274
25. *Shark tribe*.—Have five spiracles, or breathing-apertures, situated at the sides of the neck 275
White Shark 275 | Angel Shark 276
Dog-fish 276 |
26. *Ray tribe*.—Have five spiracles, or breathing-apertures, situated on the under part of the body, which is broad, thin, and flat 277
Torpedo, or Electric Ray . 277 | Sting Ray, or Fire-flaire .. 279
Skate 278 |
27. *Lamprey tribe*.—Have the mouth oval, or circular, surrounded by a fleshy margin. They have seven spiracles on each side of the neck; and the body is eel-shaped 279
True Lamprey 280

CLASS V. INSECTS.

The name of this class of the animated creation is derived from a separation in the middle of their bodies, by which they are, as it were, cut into two parts. They have generally six or more legs; and do not breathe through their mouth, but through pores, or holes, arranged along their sides. Their skin is of a hard or bony consistence. They are furnished with a moveable kind of horns, growing from the head, which are called antennæ.

Insects in general undergo various changes. From the egg is hatched the larva, called also grub, or caterpillar; this afterwards changes to a pupa, or chrysalis; and, finally, to a perfect insect.

They are divided into seven orders.

ORDER I. COLEOPTEROUS INSECTS.

These insects have elytra, or cases, covering the wings, with a division straight down the back.

1. *Scarabæus* or *Beetle* tribe.—Have the extremity of their antennæ cleft like a combpage 280
Cockchafer ib.
2. *Stag-beetle* tribe.—Have the extremity of their antennæ compressed and cleft like a comb, with one side broader than the other; and the jaws stretching out from the head, and toothed 281
Great Stag-beetle 282
3. *Borer* or *Ptinus* tribe.—Have the antennæ of an equal thickness throughout; and the thorax angulate, roundish, and receiving the head 282
Death-watch ib.
4. *Glow-worm* tribe.—Have the antennæ of equal thickness throughout; the upper part of the thorax entirely covering the head; and the elytra, or wing-cases, flexible.... 282
Common Glow-worm ib.
5. *Earwig* tribe.—Have the antennæ bristle-shaped; the wing-cases very short; and a forceps, or a kind of nippers, at the end of the tail 283
Common Earwig..... ib.

ORDER II. HEMIPTEROUS INSECTS.

In these insects the upper wings are semicrustaceous, not divided straight down the middle, but the base of the left covers the inner margin of the base of the right.

6. *Cock-roach* tribe.—Have their mouth with jaws; the wings leathery and plain; and the legs formed for running, and not for leaping 283
Common Cock-roach ib.
7. *Locust* tribe.—Have their mouth with jaws; and the hind legs formed for leaping 284
House Cricket 284 | Migratory Locust ib.
8. *Lantern-fly* tribe.—Have the front of the head projecting, and inflated; and the antennæ ending in a knob 284
Great Lantern-fly..... 285 | European Lantern-fly 285

9. *Cimex* or *Bug* tribe.—Have a snout bent under the head; the antennæ longer than the thorax; and the legs formed for running, and not for leapingpage 285

Bed-bug ib.

ORDER III. LEPIDOPTEROUS INSECTS.

These have four wings, covered with minute scales.

10. *Butterfly* tribe.—Have the antennæ thickest towards the tip 286

Large White Butterfly ib.

Nettle Tortoiseshell Butterfly ib.

11. *Moth* tribe.—Have the antennæ thickest towards the base 287

Silk-worm 287 | Clothes Moth ib.

ORDER IV. NEUROPTEROUS INSECTS.

These have four wings, veined like net-work. Tail without sting.

12. *Dragon-fly* tribe.—Have the tail forked, the mouth with many jaws, and the wings expanded 288

Great Dragon-fly ib.

13. *Ephemera* tribe.—Have the tail with two or three bristles, the mouth without teeth, and the wings erect..... 288

Common Ephemera, or May-fly ib.

14. *Myrmeleon* or *Ant-eater* tribe.—Have the tail forked, the mouth with two teeth, and the wings deflected 289

Ant-lion ib.

ORDER V. HYMENOPTEROUS INSECTS.

In these the tail is armed with a sting.

15. *Wasp* tribe.—Have a painful sting, and the upper wings folded..... 290

Hornet..... 290 | Common Wasp ib.

16. *Bee* tribe.—Have a painful sting, and a tongue bent under their head 291

Hive Bee ib.

17. *Ant* tribe.—Have a blunt sting. The males and females have wings, and the neuters are without 292

Horse Emmet, or Great Hill-ant ib

ORDER VI. DIPTEROUS INSECTS.

These have only two wings.

18. *Fly tribe*.—Have a proboscis and sucker, the sucker without a sheath, and furnished with two bristlespage 293
 Flesh-fly 293 | Cheese-fly *ib.*
 19. *Gnat tribe*.—Have a projecting sucker, which is flexible, single valved, and encloses five bristles..... 294
 Common Gnat..... *ib.*

ORDER VII. APTEROUS INSECTS.

These have no wings.

20. *Louse tribe*.—Have six legs, and the mouth armed with a sucker, capable of being pushed out and drawn back 294
 Common Louse *ib.*
 21. *Flea tribe*.—Have six legs, formed for leaping 295
 Common Flea *ib.*
 22. *Spider tribe*.—Have eight eyes, eight legs, and the feelers knobbed at the extremity..... 296
 House Spider..... 296 | Tarantula *ib.*
 23. *Scorpion tribe*.—Have eight eyes, eight legs, and the feelers armed with claws 297
 Common Scorpion *ib.*
 24. *Crab tribe*.—Have two eyes, and ten legs, the first pair with claws 297
 Common or Black-clawed Crab *ib.*
 Lobster..... 298

 CLASS VI. WORMS.

This is the lowest class of animated being. They are slow of motion, of soft substance, and able to reproduce parts of their bodies that have been destroyed. Many of them are without any distinct head, and the greater part of them are destitute of feet.

They are divided into five orders.

ORDER I. INTESTINAL WORMS.

These are simple and naked, without limbs.

1. *Ascaris* tribe.—Have their body long and round, tapering each way; and the head with three orifices for suctionpage 299
2. *Fluke-worm* tribe.—Have their body flattened, and somewhat oval; and two pores, or sometimes only one *ib.*
3. *Tape-worm* tribe.—Have their body flat and jointed, and the head with four orifices for suction 300
4. *Earth-worm* tribe.—Have their body cylindrical, with numerous annules, or rings; and furnished with minute concealed prickles *ib.*
5. *Leech* tribe.—Have their body oblong, and appearing as if cut off at each extremity. When in motion, the head and tail are dilated, or spread out *ib.*

ORDER II. MOLLUSCOUS WORMS.

These are simple, but furnished with limbs.

6. *Slug* tribe.—Have the mouth in front, four tentacula, or feelers; and an orifice in the opening which is at the side of their body 301
7. *Sea-anemone* tribe.—Have the mouth in the upper part of their body. It is capable of being extended, and is surrounded by tentacula, or feelers. The body is fixed.... 302
8. *Cuttle-fish* tribe.—Have the mouth in front of their body; and eight or ten arms, beset with suckers *ib.*
9. *Star-fish* tribe.—Have the mouth in the centre beneath; and the body compressed, leathery, flat, generally divided into several rays, and rough with tentacula 303

ORDER III. TESTACEOUS ANIMALS.

These animals are like those of the last order, but covered with a shell.

10. *Cockle* tribe.—Have a two-valved shell, the hinge furnished with two teeth, or prominences, near the beak, and a larger remote one on each side, each locking into the opposite valve 304
11. *Oyster* tribe.—Have a two-valved shell, and the hinge with a somewhat oval hollow in place of teeth *ib.*

12. *Muscle tribe*.—Have a two-valved shell, and the hinge without teeth, but marked with a longitudinal groove page 305
13. *Argonaut tribe*.—Have a single-valved shell, with the spire involute..... ib.
14. *Cowry tribe*.—Have a single-valved shell, with a narrow aperture toothed on each side 306
15. *Snail tribe*.—Have a single-valved shell, with a regular spire, and the opening somewhat lunate, or crescent-shaped ib.

ORDER IV. ZOOPHYTES.

Several of these animals inhabit the same stem, or branches, and altogether appear somewhat like the flowers of plants.

16. *Coral tribe*.—Have a hard and stony or calcareous stem .. 307
17. *Sponge tribe*.—Have a soft, spongy, flexile stem, capable of sucking up water 308
18. *Polype tribe*.—Have a soft, naked, and fleshy stem ib.

ORDER V. ANIMALCULES.

These are simple, microscopic animals.

19. *Vorticella tribe*.—Have external organs; and their body naked and ciliate, or furnished with numerous fibres, at the tip 309
20. *Vibrio tribe*.—Have no external organs; and their body round and elongated ib.

EXPLANATION
OF
SOME OF THE TERMS
USED IN THIS VOLUME.

- Abdomen.* That part of animals which contains the entrails.
- Amphibious.* Capable of living both on land and in water.
- Anal fin.* That fin which is placed on the under part of fishes, near the tail.
- Antennæ.* The parts resembling horns, which project from the heads of insects.
- Aquatic.* Living in water.
- Ash-coloured.* Of the colour of ashes.
- Bivalve.* Consisting of two valves, or divisions.
- Carnivorous.* Feeding on flesh.
- Cere.* The naked skin covering the base of the bill in some kinds of birds.
- Cetaceous.* Of the whale kind.
- Chrysalis.* The state of an insect before its final change.
- Cinereous.* Of the colour of ashes.
- Crustaceous.* Covered with a bony crust, as crabs and lobsters.
- Dorsal.* Placed on the back.
- Entomology.* A description of insects.
- Ferruginous.* Of the colour of iron, or rust.
- Gill-cover.* The bony plate which covers the gills of fishes.
- Gills.* The organs of breathing in fishes.
- Gregarious.* Collecting or associating together.

- Ichthyology.* A description of fishes.
- Imbricate.* Placed over each other at the edges, like the tiles of a house.
- Incubation.* The period of a bird sitting on her eggs.
- Larva.* The grub, or caterpillar, of an insect.
- Lateral.* Belonging to the side, placed sideways.
- Lateral line.* The line which runs from the head to the tail, in the middle of the sides of most fishes.
- Mandibles.* The two hard pieces which form the bill of birds.
- Migratory.* Coming and going at certain intervals.
- Multivalve.* With many shells, or openings.
- Ornithology.* A description of birds.
- Oviparous.* Producing eggs.
- Pectoral.* Belonging to the breast.
- Scapulars.* The feathers on the shoulders, betwixt the wings of birds.
- Shield.* The small triangular spot at the back of the thorax, betwixt the wings of insects.
- Testaceous.* Covered with a shell, as oysters, &c.
- Thorax.* That part of the back of insects which is situated betwixt the head and the wings.
- Univalve.* With one shell, or opening.
- Ventral.* Belonging to the belly.
- Viviparous.* Producing young ones alive.
- Webbed.* Connected by a skin, or membrane, like the toes of water-birds.
- Zoology.* The history of animated nature.

ANIMATED NATURE.

CLASS I. MAMMIFEROUS ANIMALS,

Or, Quadrupeds and Whales.

ORDER I. PRIMATES.

1. APE TRIBE.

OF all the races of created beings, there are none which, in their general form and structure, so nearly approach mankind, as the Apes. In sagacity and intelligence, however, they are greatly inferior to many others, particularly to the elephants and beavers. They are a numerous and most agile family: several of the species are savage and disgusting in their manners: and nearly all of them are passionate, imitative, and mischievous. They are usually arranged by naturalists into three divisions, consisting of *Apes* properly so called, *Baboons*, and *Monkeys*; the Apes having no tails, the Baboons short tails, and the Monkeys long ones.

Apes.

Oran Otan. In the Island of Borneo, and in several of the uninhabited parts of Africa, the Oran Otan is occasionally found. Some of these animals are taller, stronger, and much more powerful than men. They reside in woods, and sleep in the trees, the branches of which they form into a kind of arbour, for the purpose of defence against the periodical rains, which, in those

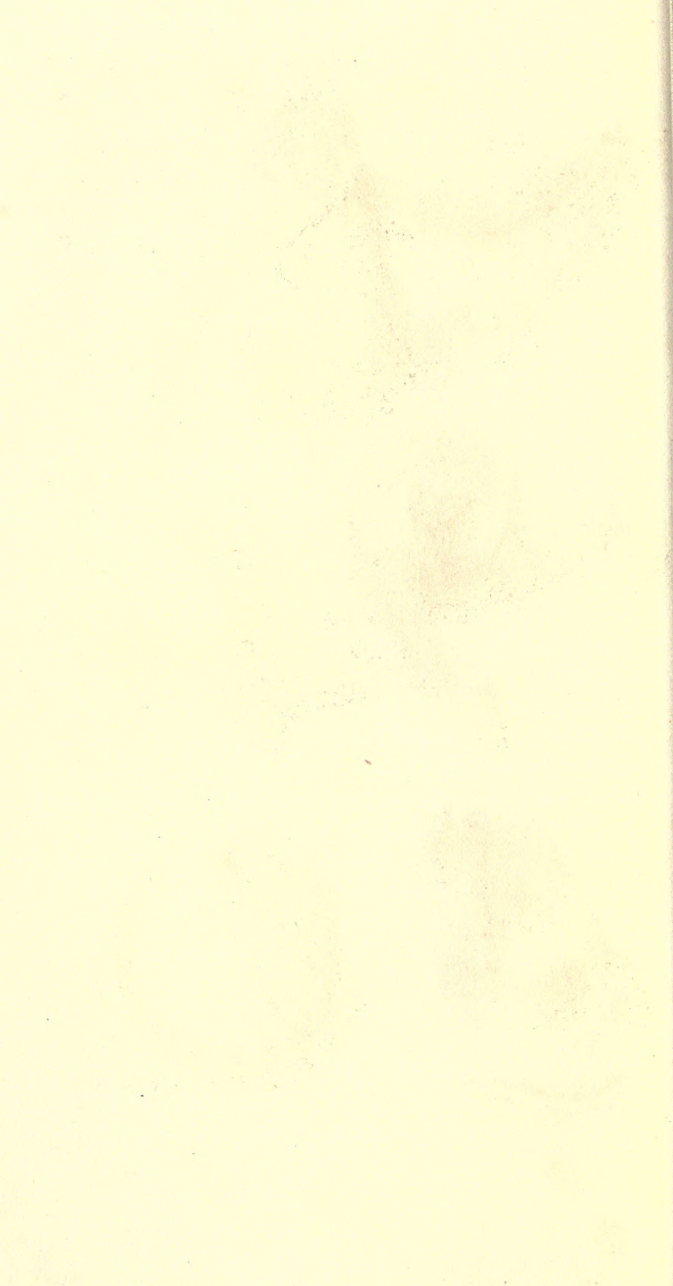
countries, are, at certain seasons, very violent, and of long continuance. They abstain entirely from animal food, living only on vegetables and fruit. When attacked, they are savage and ferocious ; and they sometimes kill the negroes who traverse the forests. The elephants which feed near their haunts, they have been known to belabour so heartily with their fists and with sticks, as to make them roar out aloud, and to put them to flight. They cannot be caught alive, except when young ; nor even then until the mother is killed, to whose dead body they cling with astonishing tenacity. Their rude and awkward resemblance to the human form, has caused them, sometimes, to be distinguished by the name of *wild men of the woods*. The Hottentots, most absurdly, believe that they are able to speak, but that they do not, lest they should be set to work.

Very few of these animals have, hitherto, been domesticated. In a tame state they are sufficiently tractable and good-tempered ; and imitate human gestures with great facility and address. A female Oran Otan, which was brought alive into Holland, from the Island of Borneo, in the year 1776, would take up strawberries or other fruit with a fork, and put them into her mouth, holding, at the same time, the plate in her other hand. After drinking, she would wipe her lips with a towel : and after eating, if presented with a tooth-pick, would use it in a proper manner. At night, when about to retire to rest, she would prepare the bed on which she slept, by shaking well the hay, and putting it in order ; and, lastly, would cover herself up warm with the quilt.

The Oran Otan is of a rusty-brown colour ; and, from the elbow to the hand the hair is reversed, or grows with the points backward. This animal is not



Long Armed Ape 1. Baboon 2. Green Monkey 3. Striated Monkey 4.



able to walk upright, except with the aid of a staff. There are no calves to the legs, nor any nails on the great toes.

Chimpanzee. The same adroitness and instincts which are observable in the Oran Otan, are likewise to be remarked in the Chimpanzee. This animal is a native of Angola, Sierra Leona, and some parts of Asia. Such is the natural gentleness of its disposition, that it may be rendered tame and domestic almost immediately after it is brought from the woods.

The principal difference betwixt the Oran Otan and Chimpanzee, consists in the latter not often exceeding the height of three feet, and being of a dark brown or blackish colour.

Long-armed Ape. When this animal walks upright, the arms are so extremely long, that it is nearly able to touch the ground with its fingers. Its natural disposition is innocent and gentle; and its principal food appears to consist of wild fruit and nuts. The countries in which it is chiefly found are Coromandel and Malacca; and so susceptible is it of injury from cold and humidity, that it never long survives a removal from its native climate.

Pigmy Ape. In some parts of ancient Numidia, the troops of these Apes are numerous beyond description. They are gay and frolicsome in their manners, and chatter violently with their teeth, when pleased: but when irritated they use threatening gestures, and will bite furiously in their own defence. It is generally supposed that the stories of Pigmies, in ancient history, had their origin in these animals.

They are about two feet in height; and their usual colour is olive-brown on the back, and yellowish on the belly. Their countenance is not unlike that of a withered and wrinkled old man.

Baboons.

Common Baboon. Few animals are more untractable and mischievous than these. If kept in a domestic state, it is absolutely necessary to confine them in strong cages of iron. They produce only one young one at a birth. This they nurse with the greatest affection, dandling it in their arms, and hugging it to their bosom. Their native country is Africa.

In height they frequently measure as much as three or four feet. Towards the middle of the body they are extremely slender. The face is long, and somewhat of a dirty flesh-colour. The general colour of the body is a greyish brown.

Mandrill. These are the large blue-faced Baboons so common, and at the same time so ferocious and disgusting, in almost all exhibitions of wild beasts. In the forests on the sea-coasts of Africa and Asia, they live in large troops. Their strength is enormous, and the tricks they play are sometimes extremely mischievous and unpleasant. They feed principally on vegetables and fruit.

Monkeys.

Green Monkey. It is almost impossible that any creature should be more agile and frolicsome than this little Monkey. One of them, which was allowed to run about the deck of His Majesty's ship Warrior, would mount the back of any animal that came in its way, for the purpose of riding.

Its size does not much exceed that of a squirrel. The face is black, the upper parts of its body are yellowish-green, and the tail is grey. It is a native of the Cape de Verd Islands, the Cape of Good Hope, and some parts of the East Indies.

Chinese Monkey. The depredations committed by the troops of these monkeys, in the corn-fields and sugar-plantations of the East Indies, are sometimes greatly injurious to the proprietors. When they find a deficiency of other food, they descend to the sea-coasts, in order to devour the shell-fish and crabs.

The name of this monkey has been derived from the hair on the top of its head being spread out on all sides, so as somewhat to resemble a Chinese hat. The upper parts of the body are of a pale brown colour, mixed with yellow; and the lower parts are whitish. It is about the size of a cat, and its tail is extremely long.

Long-nosed Monkey. This is a most grotesque-looking animal, its face being naked, flesh-coloured, and furnished with a singularly long and slender nose. It is a native of some parts of Sierra Leona, and is hitherto but little known. In its habits and disposition, however, it is understood to be mild and good-natured.

The hair of the head is long and thick. That on the upper part of the body and limbs is also long, and of a pale rusty-brown colour, mixed with black. The tail is of considerable length. In height this monkey usually stands about two feet.

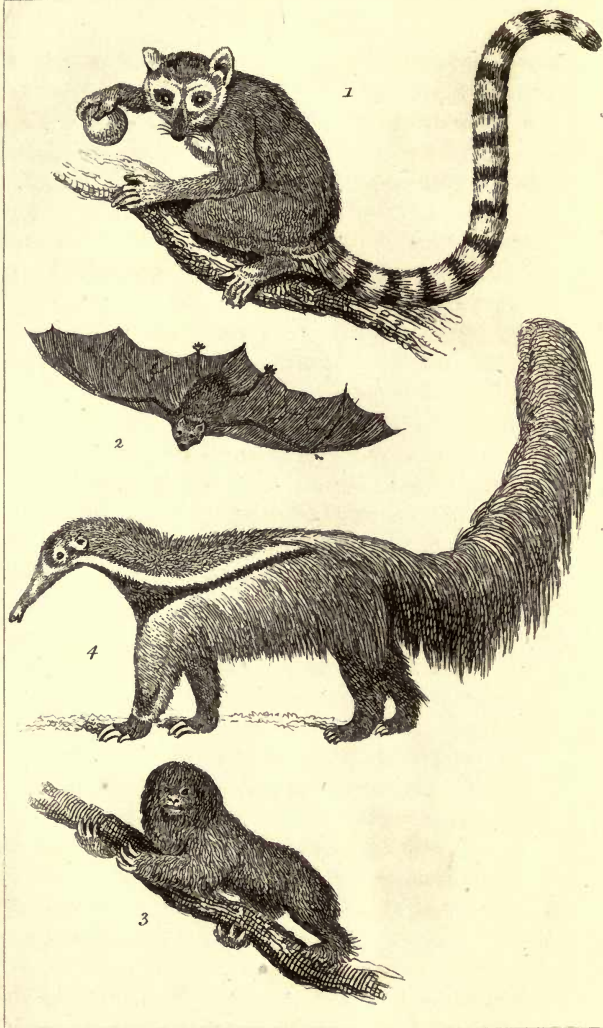
Full-bottom Monkey. No creature can be much more

whimsical in its appearance than this, from the circumstance of its having on the head, neck, and shoulders, a great quantity of coarse, flowing hair, resembling a large, yellowish grey, and bushy wig. The contrast also betwixt this and the glossy black hair, and slender body and limbs of the animal, is very remarkable. The tail is long, and of a snowy whiteness. When it stands erect, the Full-bottom Monkey measures about three feet in height. Its skin is held in great estimation by the inhabitants of those parts of Africa where it is found, for making pouches and gun-cases.

Four-fingered Monkey. By means of its tail, it is stated that the Four-fingered Monkey is able to catch fish. This is long, and so flexible at the extremity, that it is nearly as useful as an additional hand. It has been said, that, when these animals want to pass from one tree to another, several of them link themselves together by their tails, and swing backward and forward, until the lowermost of the chain catches hold of a branch of the next tree. The first then quits his hold, and thus the whole chain removes. In confinement these Monkeys have a heavy and languid appearance.

They are about eighteen inches in length, exclusive of the tail, which measures nearly two feet. The legs and arms are peculiarly long and slender. Except the face, which is naked and of a copper-colour, the body and limbs are covered in all parts with long, black hair. On the fore-feet there are no thumbs. They are inhabitants of the forests of South America.

Striated Monkey. So very small is the Striated Monkey, that it is sometimes known to take up its lodging



Ring-tailed Macaouco 1. Common Bat 2. Three-toed Sloth 3. G. Anteater 4.

in the empty shell of a cocoa-nut. In its general manner of life, it nearly resembles the squirrel. It is a restless and active creature, climbing trees, and skipping about among the branches, with the greatest agility. It gnaws wood like a mouse, and chiefly feeds on insects, fruit, and small birds. It emits a hissing kind of cry, and smells strongly of musk. Its native country is Brazil, and the adjacent parts of South America.

In size it is smaller than a squirrel. The tail is considerably longer than the body, very bushy, and beautifully marked with alternate rings of black and white. The head is black, with the forehead, lips, and front of the ears white. The body is of a reddish ash-colour, slightly marked with dusky shades.

2. LEMUR TRIBE.

These animals have their paws formed like hands, and in this respect, as well as in their general habits of life, they somewhat resemble the monkeys. The head, however, is shaped like that of the dog; and the hind legs are much longer than the others.

Slow Lemur, or Bengal Loris. Melancholy in its appearance, and inactive beyond almost all other animals, this creature has, sometimes, though improperly, been ranked among the sloths. Its only time for strolling abroad, in search of food, is during the night. In the day-time it lies, in its place of concealment, rolled up like a dormouse. The food to which it is most partial, consists of fruit, roots, insects, and small birds. It is capable of being tamed, but is of so chilly a nature, that, if removed out of a hot climate, it would soon perish.

The Slow Lemur is about the size of a squirrel, of a rounded and somewhat clumsy shape. Its colour is pale brown. Round each eye there is a brown circle, and a stripe of the same colour extends along the back. It has no tail. This animal is a native of several of the interior parts of the East Indies.

The Ring-tailed Macauco. This animal is very different, in its manners, from the last. Instead of being slow and inactive, it is light and agile in the extreme. It is found in the thickly-wooded districts of Madagascar. Few creatures are more easily tamed, and in this state it is frequently brought into Europe. All its actions are similar to those of a monkey, but are much less troublesome and mischievous.

The Ring-tailed Macauco is about the size of a small cat. Its general form is slender and elegant; and its colour brownish-grey on the upper parts, and white beneath. The eyes are large, and the hind legs peculiarly long. The tail is bushy, nearly twice the length of the body, and alternately marked with black and white rings.

3. BAT TRIBE.

Notwithstanding the ancient notion that these animals were allied to the birds, they are, in every respect, perfect quadrupeds. What are denominated wings, are nothing more than thin membranes; and the parts which support them, are the toes of the fore-feet lengthened to a very great extent.

Common Bat. Towards the close of evening, during all the warmer months of the year, the Common Bats may constantly be seen flitting about in shady lanes,

and in the neighbourhood of old buildings. In the day-time they lie concealed in dark and retired places. Hundreds of them may sometimes be found clustered together, almost like a swarm of bees. In their flight they catch and devour small insects, such as gnats, flies, and several kinds of moths. This accounts for their unsteady course through the air. They are able to walk and run with tolerable rapidity, though with great apparent clumsiness; and they have no difficulty, whatever, in rising from the flattest surface into the air. —It is a singular fact, that bats, even with their eyes and their ears closed, are able to fly about in the darkest places, without, at any time, beating themselves against the walls. And, when flying in a room, they never, like birds, strike against the windows. During the winter time they are seldom to be seen abroad, but continue torpid nearly the whole of that season. If this were not the case, they must die of hunger, as a full supply of their natural food could not then be found. The females usually produce two young ones at a birth.

The general size and colour of these bats greatly resemble those of a mouse. The membranes are smooth, and nearly of the same colour as the body. The ears are naked, and shorter than the head.

The Long-eared Bat. In its habits, as well as as its general colour and form, this bat resembles the last species. Its ears, however, are of great length, and are double, having, in the inside of each, a small, pointed valve, or secondary ear. The outer valves, when the animals sleep, are folded down under the legs, leaving the inner ones only visible; and thus, by a wise contrivance,

closing the orifices of the ears, and preventing anything noxious from entering.

The Vampyre Bat. The size and appearance of these bats are tremendous ; the extent of their membranes being upwards of four feet, and their flight being oftentimes in groupes, which darken the air. It is stated that, in New Holland, at least 20,000 of them have been seen at the same time, and within the space of a single mile. They are very common along all the coasts of Africa and Malabar. The denomination of Vampyre has been given to them, from the circumstance of their silently sucking the blood of animals and men, whilst asleep in the open air. This they do by inserting their pointed tongue into a vein. And so imperceptibly is this operation performed, that the sufferer is sometimes not roused to a sense of his danger, until so exhausted from loss of blood, as scarcely to be able to escape it. These animals also subsist on various kinds of fruit.

The length of their body is from nine inches to a foot ; and their fur is of a deep reddish-brown colour. The membranes and ears are naked and blackish : the latter are pointed. The head is shaped somewhat like that of a fox.

Several other species of Bats, in hot climates, have a propensity to blood.

ORDER II. BRUTA.

4. SLOTH TRIBE.

In many respects these animals have a distant resemblance both to the monkeys and lemurs. Their motions,

however, are extremely slow ; but they are more active in the night than during the day.

Three-toed Sloth. From their general appearance, these creatures might be considered among the most helpless and miserable of animated beings ; yet, on examination and inquiry, it will be found that they are supplied with every requisite to happiness, of which their nature and condition are capable. Their aspect is piteous, and their voice melancholy ; and such is the extreme slowness of their motions, that, when once their residence is fixed in a tree, they continue there, almost immovable, so long as the foliage is sufficient to supply them with food. As soon as this supply ceases, it is stated that they drop to the ground like a lifeless mass. They sleep in the day-time, and move about only during the night. They are natives of several parts of South America.

The hair of the Sloth is of a light brown colour, coarse and long. The head is round, and the face short and naked, the hair projecting considerably over it. The fore legs are much the shortest. There are, on each foot, three excessively strong, large, and curved claws.

5. ANT-EATER TRIBE.

The tongue of the Ant-eaters is a very remarkable member. It is long, round, shaped like a worm, and, in some of the species, capable of being extended to the length of two or three feet beyond the mouth. Their claws are so large and strong, that they are able to defend themselves against the attacks of even the most powerful opponents.

Great Ant-eater. The name of this, as well as of the other animals of its tribe, has been derived from the food on which it principally subsists. And the mode in which it obtains its food is somewhat singular. After scratching up an ant-hill with its long claws, it unfolds its glutinous and worm-shaped tongue upon it; and as soon as this is completely covered with the insects, the creature suddenly withdraws it and swallows them. This is repeated as often as necessity requires. The tail of the Great Ant-eater is so large and bushy, that it is employed not only to cover the animal whilst asleep, but also, in foul weather, to shelter it from the rain. These quadrupeds usually sleep in the day-time, and stroll about during the night. If attacked by dogs, or even by panthers, they have sufficient strength in their claws to oppose an effectual resistance. They are easily tamed; and, in this state, will pick up and eat crumbs of bread, and small bits of flesh. The inhabitants, both of South America and Africa, in each of which countries they are found, occasionally eat their flesh; but, to a European palate, this is exceedingly fetid and ill-flavoured.

These animals are as large as sheep. They are covered with coarse, brown hair, and have a black curved stripe on each side of the body. The hair on the back forms a sort of mane. The tail is very long and shaggy. On each of the feet there are four large claws. When the animal is at rest, the tongue lies doubled within its mouth.

Two-toed Ant-eater. In its manner of feeding, this species resembles the last. It walks very slowly, and issues from its concealment only during the night. Its tail, which is thick at the base, tapers towards the end;

and is so formed that the animal is able to coil it round the branch of a tree, or any other object, for the purpose of preventing itself from falling. It is a native of South America.

This species is in size not much larger than a squirrel. Its hair is of a yellowish colour, and it has on the fore feet two, and on the hind feet four claws. The under side of the tail, near the extremity, is naked.

6. PLATYPUS TRIBE.

There is only one known species of Platypus.

Duck-billed Platypus. This is one of the most extraordinary of all animals, exhibiting the perfect resemblance of a duck's beak, grafted on the head of a quadruped. So accurate is the similitude, that, at first view, it naturally excites the idea of some deceptive and artificial preparation. From this singular structure, and from the circumstance of its webbed feet, it is very evident that the animal resides in watery situations, and nibbles about for its food, like a duck, in the mud and ooze. Nothing, however, is hitherto known, with certainty, respecting its habits and mode of living. It is a native of New Holland.

In length it measures about thirteen inches, including the tail, which is about three inches long. The beak is not more than an inch and a half in length. The legs are very short, and terminate in a broad web, which, on the fore feet, extends to a considerable distance beyond the claws. The body is depressed, and has some resemblance to that of an otter in miniature. It is covered with a thick, soft, brownish-coloured fur, which is considerably darker on the upper than on the under parts.

7. MANIS TRIBE.

These are, in every respect, true quadrupeds, notwithstanding their general resemblance to lizards. Their bodies are covered with strong and movable scales. The tongue is round, long, and capable of being extended to a great distance out of the mouth.

Long-tailed Manis. Like the quills of the porcupine, the scales of these animals constitute their weapons of defence. When attacked they roll themselves into a ball, and present to the foe a surface armed on all sides. So hard are the scales, that they will strike fire like flint. When the animals are at rest, these lie over each other, like tiles upon a house. The Manis feeds on ants, worms, and lizards, which it seizes, in a manner similar to the ant-eater, by means of its long and slimy tongue. Gentle and inoffensive in its manners, it seeks to injure no one. It resides in holes of trees, or in burrows which it forms in the ground. The negroes are peculiarly partial to its flesh, which is not only wholesome but palatable food. It is found in several parts of India.

A stuffed specimen of this animal, formerly in the British Museum, was a yard and a half in length, of which the tail measured a yard and half a quarter; the body, including the head, being only fourteen inches. On each of the feet there are four toes. The upper parts of the body are covered with scales, and the lower parts with hair. The scales are of a brownish colour, and have a glossy or polished surface.

8. ARMADILLO TRIBE.

All the animals of this tribe are covered, on the upper parts of the body, and even to the point of the head, and the extremity of the tail, with a kind of armour resembling bone. They live in holes, which they form under the surface of the ground ; and feed only on roots, fruit, vegetables, and insects.

Three-banded Armadillo. In the torrid climates of South America these animals are principally found ; and, from their structure and appearance, they are oftentimes called, by the English sailors, *shield-hogs*, and *iron-pigs*. They are occasionally injurious in the gardens of the planters, where they eagerly devour the leguminous plants and fruit. As their flesh is considered a delicious food, they are objects of eager pursuit to the inhabitants. When attacked, they endeavour to roll themselves into a globular form, presenting only their coat of mail on all sides. So expert are they in burrowing into the ground, that, where the soil is not very hard, they are able completely to bury themselves in a few moments. If in this operation they are caught by the tail, they resist with such obstinacy, that the tail frequently breaks off short, and is left in the hands of the pursuer. The Indians hunt these animals with dogs, which are trained for the purpose. When caught young, they may, without difficulty, be rendered tame and domestic. They breed three or four times in the year, and produce several young ones at a litter.

This animal has three movable bands or girdles, composed of square or oblong pieces ; and on each of its feet are five toes. It is about a foot in length, and eight inches

in width. The tail is not more than two inches long. The head is oblong; the eyes are small, and the ears short and rounded. The general colour is a dirty or yellowish white.

Six-banded Armadillo. Like the last-mentioned species, the Six-banded Armadillo is an exceedingly troublesome animal in the gardens of Brazil, and some other parts of South America. During the day-time he conceals himself underground, and only crawls abroad towards evening, to seek for food. Although he chiefly subsists on fruit, he also eagerly devours both insects and birds.

9. RHINOCEROS TRIBE.

In their general habits and manners, these animals are somewhat allied to the hog. They have a horn on their nose, which is not, as in most other quadrupeds, fixed in the bone, but merely in the skin.

Single-horned Rhinoceros. In strength and stature the Rhinoceros ranks, among quadrupeds, next to the elephant; but in sagacity and intelligence it is far removed. So thick and tough is its skin, that it is capable of resisting the keenest edge of a scymeter; and even leaden bullets have been known to flatten against it, and fall to the ground without penetrating. Although formidable in appearance from his unwieldy bulk, his tough hide, and the horn upon his nose, he is in reality a peaceable and harmless creature. He never provokes a combat, yet, when attacked, he equally disdains to fly and to yield; and his strength and courage usually protect him from insult. It is stated that the leopard or the tiger would rather attack the elephant than the

Rhinoceros; which they are not able to oppose, without danger of having their bowels torn out by his horn. The Rhinoceros feeds on vegetables, and on the tender branches of shrubs. These he seizes by means of his upper lip, which is capable of being extended to a great length, and, in many respects, answers the same purposes as the trunk or proboscis of the elephant. An animal of this species, which, in the year 1812, was kept in the exhibition-rooms at Exeter 'Change, London, was fed, chiefly, on carrots and greens, which he invariably seized with his lip, in the manner above mentioned. He was sufficiently tractable and docile to obey the commands of the keeper, and would permit the visitors to put their hands upon him, without appearing to be disturbed by the intrusion.

In a wild state, in their native countries, of Africa, India, Sumatra, and Ceylon, these animals live in the most cool and sequestered places, chiefly in morassy situations and shady forests. Their sight is said to be somewhat dull, but their hearing is peculiarly acute. Like the hog, they delight in wallowing in the mire, and covering their bodies with mud. They produce but one young one at a birth. The hide of the Rhinoceros is capable of being made into an extremely strong and valuable kind of leather.

The height of this animal is generally from ten to twelve feet. The skin is blackish, and naked, except the ears and tail. It is divided by several transverse plaits: of these, the first is behind the head; the second on the shoulders; the third from the back down the loins, before the thighs, and along the belly; and the fourth across the thighs. It is covered over with a kind of tubercles or warts. Between the folds, and under the belly, the skin is soft, and of a rose colour. The horn

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on the nose is sometimes three feet in length, of a fibrous texture, conical, and tapering to a point. The eyes are very small.

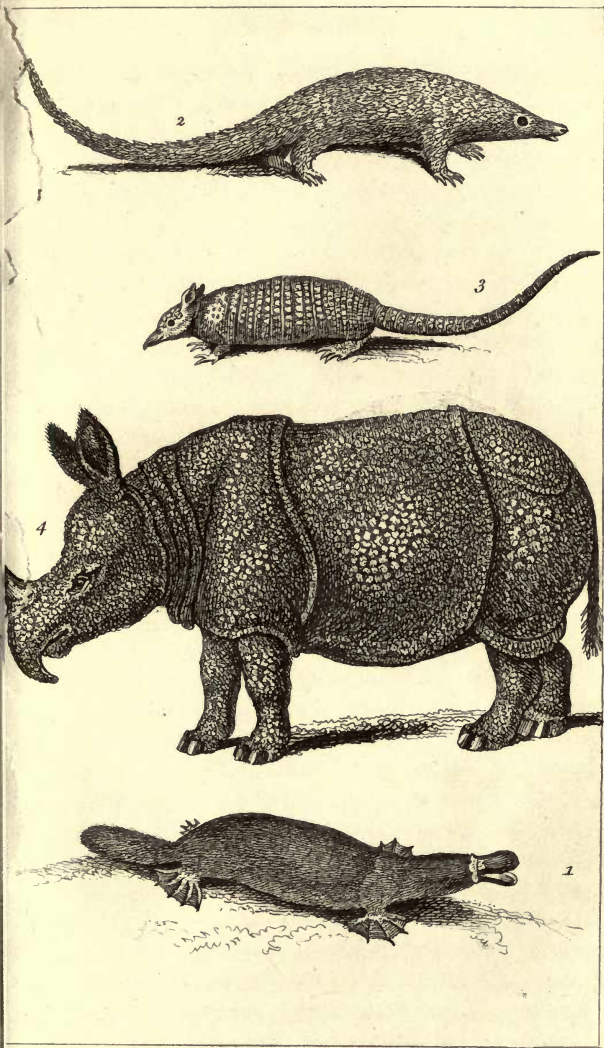
Two-horned Rhinoceros. This animal is a native of Africa. In most of his habits he appears to resemble the single-horned species. Such is his enormous strength, that when alarmed or pursued, he rushes through the forests, bearing down before him the dead and withered trees, almost as if they were cut off, says Mr. Bruce, by a cannon-shot.

The principal difference betwixt this and the last species, consists in its skin being smooth, and, in a great measure, destitute of those vast armour-like folds, so conspicuous in that; and in its having, upon the nose, two horns instead of one.

10. ELEPHANT TRIBE.

There is only one clearly-ascertained species of Elephant.

The Elephant. It cannot but fill the mind with unusual conceptions of greatness and sublimity, to see so huge a mass of matter as the Elephant in a state of animation. His height being sometimes more than twelve feet, and his bulk in full proportion, he is, of course, endowed with enormous strength. His legs appear like stout and massive pillars; but by no means too stout for the ponderous fabric they have to support. Powerful as he is, the Elephant contents himself with vegetable food, attacks no one, and, whilst unmolested, although he is the largest and strongest, he is, at the same time, the most peaceful and gentle beast of the forest. His dispositions, indeed, are even amicable, social, and



Black-billed Platypus 1. Longtailed Manis 2. Armadillo 3. Rhinoceros 4.

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friendly. In his native retreats he never appears but in troops of his own species, and a consciousness of superior power renders him altogether a stranger to fear. He is courageous, but not fierce; and strong, without being terrible. He unites in himself all the address and sagacity so conspicuous in the dog and the ape; with, at the same time, the sociability of the beaver. In the neighbourhood of deep forests, in Africa and Asia, large troops of these animals are frequently seen; and the injury they commit in the plantations is sometimes very great, treading down, with their immense feet, infinitely more than they devour. They feed on vegetables, grain, and the tender branches of trees and shrubs.—In the neighbourhood of the Cape of Good Hope, they are hunted and killed for the sake of their teeth. These are brought into Europe in great quantities, and, when cut up for the purpose of being manufactured, have the name of ivory. Elephants when hunted, endeavour, with care, to avoid muddy and morassy places, lest they should stick fast in the ooze; but they are able to swim with great ease, over even the largest and most rapid rivers. These hunting excursions are sometimes attended with danger, as the following anecdote, affording a dreadful lesson to humanity, will show. Three Dutchmen, brothers, who had made large fortunes by this savage business, determined to retire to Europe, and enjoy the fruits of their labour, but resolved, before their departure, to have a last chase, by way of amusement. They soon met with their game, and commenced their attack; but, one of their horses falling, the rider was flung to the ground. The enraged Elephant instantly seized the unhappy huntsman with his trunk, flung him up into the air; then, turning towards the other two, as it were with

an aspect of revenge and insult, held out to them the body of their companion, writhing in the agonies of death.

No animal is more useful to man than the Elephant. When domesticated, and trained to labour, he becomes the most gentle and obedient of all beasts; and his strength and power are such as to enable him to perform infinitely more work than the horse. He kneels down at command to receive his conductor, who rides upon his shoulder, and guides his course by means of a pointed iron rod. In the eastern countries he is usually fed on rice mixed with water. The trunk, or proboscis, of the Elephant is a very wonderful member. Furnished with a kind of finger at its extremity, and flexible in almost every direction, it serves to the animal all the purposes of a hand. There are, perhaps, few persons who have visited London of late years, that have not seen the dexterity with which the Elephant, at Exeter 'Change, employs this member, in the opening and shutting of bolts, untying of knots in ropes, taking off people's hats, and picking up money from the floor. He can equally grasp with it a broom-stick, and gather up a straw. The following well-authenticated anecdotes of the Elephant will probably afford some amusement, at the same time that they may convey some instruction to the juvenile reader.

An Elephant was one day employed in thrusting from the shore into the water a vessel, the weight and size of which were so great, that he could scarcely move it. "Take away that lazy beast," said his master, in a sarcastic tone, to the keeper, "and bring another." The poor animal instantly renewed his efforts with additional force, fractured his skull, and died on the spot.

In the national collection of animals at Paris, there was a female Elephant, to which the keeper had frequently forbidden the visitors to give anything to eat. Of this interference the animal had several times expressed her disapprobation, by sprinkling his head with water from her trunk. One day a bystander offered to her a piece of bread. The sentinel perceived it; but the moment he opened his mouth to repeat his usual admonition, the Elephant, placing herself directly before him, discharged, full in his face, a copious stream of water. A general laugh ensued. The sentinel calmly wiped his face, and continued as vigilant as before. Soon afterwards, he found himself under the necessity of again cautioning the spectators on the subject. No sooner was this uttered, than the enraged animal seized hold of his musket, twirled it round with her trunk, and did not restore it till it was bent nearly into the form of a screw.

The story of the tailor of Surat is well known. This man used to sit and work in his shed, close to the place where the Elephants were daily led to water. He contracted a kind of acquaintance with one of the beasts; presenting him, occasionally, with fruit and vegetables, as he passed along. To receive these, the Elephant was accustomed to put his trunk into the shop. One day the tailor, happening to be in an ill-humour, instead of giving him anything to eat, pricked him with his needle. The animal instantly withdrew his trunk, and, without showing any marks of resentment, went with the rest to drink. After he had quenched his thirst, he collected in his trunk a large quantity of muddy water, and, as he passed the shop in his return, discharged the whole of it upon the unfortunate tailor and his work; thus, as it has been observed,

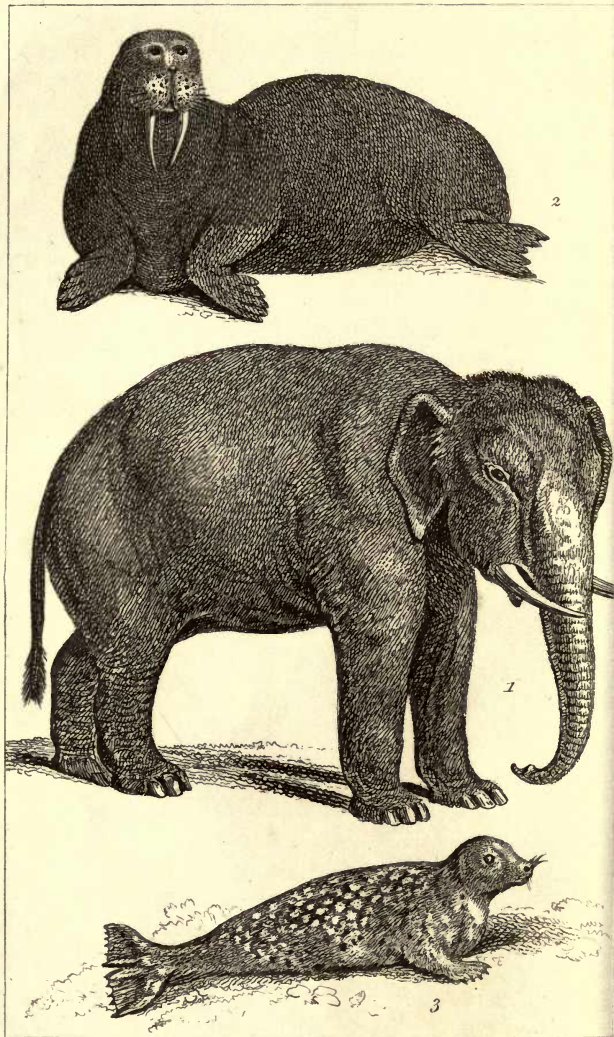
justly punishing him for his ill-nature and breach of friendship.

The skin of the Elephant is of a dingy brown colour. The tusks, which sometimes grow to the length of ten feet and upwards, are not visible until the animals attain a certain age ; and, in the females, they are much smaller than in the males. The eyes are extremely small ; and the ears large and pendulous. The tail is terminated by a few scattered, thick, and black hairs.—These animals seldom produce more than a single young one at a birth ; and the usual period of their lives is from forty to sixty years ; though many of them have been known to attain the great age of a hundred, or a hundred and twenty.

11. WALRUS, OR MORSE TRIBE.

All the species of Morse are amphibious, or occasionally reside both on land and in the sea. Their bodies are thickest at the shoulders, and gradually taper from thence to the tail. The hind legs are stretched far backward, and form a kind of fins, by means of which they urge themselves along in the water with great ease and agility.

Great Morse, or Arctic-Walrus. Inhabitants chiefly of the shores of Hudson's Bay, and the Gulf of St. Lawrence, these animals are oftentimes seen, in vast numbers, on the floating ice, which they are enabled to ascend with the assistance of their long and powerful tusks. By means of these tusks they are also enabled to defend themselves against the attacks of bears on land, and sword-fish and sharks in the sea. When unassailed, they are perfectly harmless. They feed chiefly on shell-fish and marine animals. Their bodies yield a great quantity



Elephant 1. Great Morse 2. Common Seal 3.

of oil; and a strong and elastic leather is made from their skins.

Such is the size of these animals, that they frequently weigh from 1500 to 2000 pounds each. Their head is small, neck short, and body thick and rounded. The upper lip is cleft. The eyes are very small; and the ears are merely holes in the head. The skin is scattered over with short, brownish hair, and the tail is very short.

ORDER III. FERÆ.

12. SEAL TRIBE.

Like the animals which constitute the preceding tribe, the Seals are amphibious. Their body also is thickest at the shoulders, and gradually tapers from thence to the tail. They subsist entirely on fish and other marine animals.

Common Seal, or Sea-Calf. On almost all the northern coasts of Great Britain, especially on such as are the most rocky and inaccessible to man, these animals are to be seen in great numbers. They are known to migrate, in herds, across the sea, from one country to another. When on shore they are extremely watchful, and, if threatened with danger, scramble immediately into the water. They swim with great agility, but are not able to continue, for a long time together, under the surface. Their principal food is fish. If caught when young, they may be rendered perfectly tame; and, as it is said, will sometimes follow their master like a dog. They produce two or more young ones

at a birth. The skins of these animals are valuable, both as furs and leather.

They are from four to six feet in length. The head is large and round, and the body tapers, gradually, from the shoulders to the tail. The eyes are large. On each side of the mouth there are strong and waved bristles. The tongue is cleft at the end. There are no external ears. The legs are very short, and all the feet are webbed. The neck is smooth. They vary considerably in colour, being dusky, whitish, grey, black, or spotted.

Ursine Seal. In the sea no animals can be more active than these, swimming, in pursuit of their prey, with wonderful strength and impetuosity. On the shores of Kamtschatka and Behring's Island, where they are very numerous, each family may be observed perfectly distinct from the rest. The approach of man does not alarm them; and if a stone be thrown at them, they will seize it with their teeth. They are excessively quarrelsome, particularly the males, for the possession of favourite females. Towards their offspring they show a great warmth of affection, and will defend them to the last extremity, when attacked. They delight in basking in the sun, holding up and wagging their hind legs, as a dog does its tail. The young ones are generally produced in the months of June and July; and, when about half grown, are as sportive as puppies. The old males live in perfect solitude, and become fat, peevish, and melancholy.

These animals are usually from six to eight feet in length; and the males are considerably larger than the females. The fore legs are about two feet long, and the hind legs somewhat shorter. The general colour of the

hair is black ; but that of the old ones is tipped with grey. The females are ash-coloured. They have small external ears.

Bottle-nosed Seal, or Sea-Lion. When the Bottle-nosed Seals sleep, they are said always to place sentinels, for the purpose of giving alarm in case of danger. They are animals of immense size, measuring from fifteen to twenty feet in length. Navigators have sometimes observed them swimming in numerous troops. They are fond of wallowing in miry places, where they tumble over each other like swine. As in the ursine seals, the males combat each other with great fury, for the possession of their females. They inhabit the seas and sea-shores of various parts of South America, New Zealand, the Island of Juan Fernandez, and the Falkland Islands.

13. DOG TRIBE.

Nearly all the animals of this tribe collect in packs, for the purpose of pursuing and devouring their prey. They live entirely on animal food.

Common Dog. In its wild state the Dog is an inhabitant of various parts of both Africa and America. In a domestic state, he is one of the most docile and tractable of all creatures. His gentleness and fidelity have rendered him, in many countries, not merely a useful, but a necessary companion of man. At the approach of his master he runs to, and fawns upon him, in the most affectionate manner. Even after the most cruel treatment he will not desert, but in spite of the injury, will continue to follow and defend him. He distinguishes

his master's voice, and at all times obeys, with readiness, his commands.—Dogs are capable of being trained to exhibit a variety of entertaining feats. Of these, perhaps, the most remarkable are what the dancing dogs performed, some years ago, at Sadler's Wells. After storming a fort, and exhibiting various other singular manœuvres, one of them was brought in as a deserter, was shot, and carried off, as if dead, by his companions. It is stated, that in Germany, some years ago, a dog was even taught to speak several words, with tolerable distinctness. All the different kinds of dogs are to be considered only as varieties of one common stock, or species. Those which are natives of the British Islands are the following:—

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| 1. Shepherd's Dog. | 8. Irish Greyhound. |
| 2. Water Dog. | 9. Common Greyhound. |
| 3. Spaniel. | 10. Mastiff. |
| 4. Setter. | 11. Bull Dog. |
| 5. Pointer. | 12. Terrier. |
| 6. Hound. | 13. Lurcher. |
| 7. Bloodhound. | 14. Turnspit. |

1. *Shepherd's Dog.* In wild and mountainous districts these dogs are of indispensable use to the shepherds, in keeping their flocks together, and driving back to the flock such of the sheep as attempt to stray.—Their general form and appearance are rude and inelegant. The ears, in some of the animals, are erect, and in others, only half erect. The tail is covered beneath with long hair.

2. *Water Dog.* Of this dog there are two varieties, the one of considerably larger size than the other.

They are useful to sportsmen, in fetching game out of the water.—They are distinguished by having their hair long, and curled like the fleece of a sheep.

3. *Spaniel*. The principal use of the Spaniel is in the sports of the field.—Its hair is long on all parts of the body, but particularly on the breast, beneath the belly, and at the back of the legs. The ears are pendulous and woolly.

4. *Setter*. So very nearly are these animals allied to the spaniel, that they are frequently distinguished by the name of *English Spaniels*.

5. *Pointer*. This animal is supposed to be of Spanish origin. His faculty of smelling is peculiarly acute; and, when properly trained, he is employed in the field by sportsmen, for the finding and marking of game.—The head of the Pointer is large and broad, his limbs are stout, his body is weighty, his hair smooth, and his tail nearly straight.

6. *Hound*. Of the Hound there are three distinct varieties; the fox-hound, harrier, and beagle. They are never used but in packs, and they hunt in full cry.—They have long, smooth, and pendulous ears; and on each hind foot a spurious claw. Their nose is broad, nostrils large, and mouth wide.

7. *Bloodhound*. In our country Bloodhounds are now seldom used, except in the royal forests, where they are kept for the purpose of tracing and recovering wounded deer.—They are finely-formed animals, equal in size to a very large hound, generally of a deep tan, or reddish-brown colour, with a black spot over each eye.

8. *Irish Greyhound, or Wolf Dog*. In Ireland, these dogs are supposed to be of very ancient origin. They are the largest of all the dog kind; some of them

being as tall as a calf of a year old. They have somewhat the general appearance of the greyhound, but their body and limbs are, in proportion, much more stout and strong. They are now become scarce.

9. *Common Greyhound*. The fleetness of Greyhounds is very remarkable: one of these dogs has been known to run more than four miles in twelve minutes. They hunt by sight, and not, like the hound, by scent.—Their shape is slender, nose pointed, body curved, and tail curled upwards at the extremity.

10. *Mastiff*. The chief use of the Mastiff is for a watch-dog, and from his great size and strength he is peculiarly well fitted for this employment. Our island was celebrated for the excellence of its Mastiffs, even during the time of the Romans.

11. *Bull Dog*. Since the ferocious practice of bull-baiting has declined in this country, this race of dogs has been neglected, and, consequently, they are much less numerous than they were formerly.—In size they are somewhat smaller than a mastiff; but in form, nearly allied to it. The body is robust, and the lips pendulous at the sides.

12. *Terrier*. The courage and ferocity of the Terrier are such as to render it an animal peculiarly useful in the destruction of all kinds of vermin. It is employed by sportsmen, in forcing foxes and other beasts of prey out of their dens.—Some terriers are rough-haired, and others smooth. Their legs are short, and they are generally of a reddish, brown, or black colour.

13. *Lurcher*. This may be called the poacher's dog. He takes his prey by mere subtilty. If he enters a warren, he neither barks nor runs on the rabbits, but seizes, by a sudden spring, such as come within his reach.—There are two varieties, one covered with

short, thickset hair, and the other with long and harsh hair.

14. *Turnspit*. The name of Turnspit is derived from its employment, which, in former times, was the turning of meat, whilst it roasted at the fire. This was done within a broad kind of wheel, in the same manner as squirrels turn their cylindrical cages.—The legs of the Turnspit are short and crooked, and the body long and stout. The tail curls upon its back. The colour is generally a dusky grey, spotted with black; or entirely black, with the under parts whitish.

Wolf. Savage, voracious, and cruel in an excessive degree, these noxious beasts are held by mankind in universal abhorrence and dread. In almost all the forests of the European continent they are abundant, issuing forth, during the stillness of night, and destroying, with indiscriminate slaughter, every living creature which they have the power to overcome. Unless attentively watched, they oftentimes commit dreadful ravages in the sheep-folds. Formerly they were very abundant in England, so much so, that, in the tenth century, an annual tribute, was imposed upon one of the Welsh princes, of *three hundred* Wolves' heads. The last Wolf known to have been killed in Scotland was in the year 1680, and the date of the complete extinction of these animals in Ireland is 1710. We find no particular mention of Wolves in England, after the year 1281.—Wolves are chiefly found in forests, and, in some countries, they hunt in packs, like hounds. When oppressed by cold and hunger, they have even been known to attack mankind; and their cruelty is the more dreadful, since they add sagacity to strength, and cunning to

rage. They produce from three to nine young ones, usually about the month of May. They attain their full growth in three, and are supposed to live from fifteen to twenty years. No part of the Wolf is considered at all valuable, except his skin, which makes a warm and durable fur. Numerous are the attempts which have been made to exterminate these noisome beasts. Poisoned carcasses of animals are often thrown in their way : whole provinces sometimes rise in arms to hunt them. More suspicious than almost any other animals, they are scarcely ever heard to bark or growl in the woods ; and so fearful are they of snares, that they will even avoid a bit of rope which they may see hanging upon the ground. When caught in a trap or snare, their courage forsakes them, and they become as abject and cowardly as before they were daring and desperate. We are informed by Gesner, that, one night, a friar, a woman, and a Wolf were all caught in one trap : the woman lost her senses with the fright, the Wolf his life, and the friar his character.

This animal is larger and stronger than a dog. His head is long, his nose pointed, and his ears erect and sharp. The tail is bushy, and black at the tip. The hair is long, though not shaggy. All the upper parts of the body are of a yellowish-brown colour.

Hyæna. Of the Hyæna, many absurd notions were anciently credited : among others, that its neck consisted of but one bone, which was without joint ; that it every year changed its sex ; and that it had the power of imitating the human voice. Hyænas are found, in great numbers, in Asiatic Turkey, Syria, Persia, and many parts of Africa, generally inhabiting caverns and rocky





Wolf 1. Fox 2. Lion 3. Spotted Hyæna 4.

places, prowling about in the night, to feed on the remains of dead animals, or on whatever living prey they may be able to seize. They frequent burying-grounds, where they dig up the graves, and feed on the half-putrid carcases of mankind. On the whole, no animals can be more odious than these: their aspect is savage, their smell offensive, and their whole character cruel and relentless. When once they seize hold of any object that is presented to them, they oftentimes will not quit it but with their life; and, from this circumstance, they become an easy prey to the hunters. So great is the courage of these animals, that one of them is stated to have put two lions to flight; and that they are frequently known to attack the ounce and the panther. They are capable of being tamed, but they can never be rendered familiar. The general gait of the Hyænas is awkward and straddling; so much so, that a spectator, unaccustomed to them, would almost fancy one of their hind legs to be broken.

Their size is nearly that of a large dog. The head is broad and flat, and the ears naked. The hair on the ridge of the back is erect, forming a bristly kind of mane, some inches in length. The tail is bushy, and somewhat short. Their general colour is a pale greyish-brown, marked across the sides with several distant blackish bands.

Jackal. In the torrid regions of Africa and Asia, these active and rapacious beasts supply the place which is occupied, in temperate and frozen districts, by the wolf. The hotter the climate, the greater are their strength and vigour. They collect together, and hunt their prey in packs of from forty to fifty in number, and attack and devour all kinds of animals. In the

burning plains of Egypt and Arabia, they follow the caravans, for the purpose of feeding on whatever is left behind. The lion and the panther oftentimes lurk in the rear of the Jackals, and as often rob them of at least part of their prey : hence appears to have arisen the erroneous notion of the Jackal being the lion's provider. These animals live in burrows, which they dig under the surface of the ground ; and from which they seldom issue, except during the stillness of night. Their howling when in pursuit of prey, is said to be dreadful. If caught young, they may be rendered perfectly tame and domestic. Like a dog, they distinguish their master from every other person, eat out of his hand, and love to be fondled and patted.

In many respects the Jackal has a great resemblance to the fox. The head, however, is shorter, the nose more blunt, and the legs are longer. The tail is thickest in the middle, tapers to a point, and is tipped with black. The hair is long, and of a tawny or brownish colour, lighter on the under than the upper parts of the body.

Fox. On his address and cunning, rather than his strength or agility, the Fox depends for his subsistence. He lives, indiscriminately, on quadrupeds, fowls, fish, insects, and vegetables : scarcely anything eatable comes amiss to him. He leaves his den, and prowls abroad in search of prey, from the twilight of evening until the dawn of morning. His dexterity in seizing and securing his prey is such, as, in all ages, to have rendered his cunning proverbial. His ravages among poultry are too well known in almost every village. He kills many at a time, carrying them off, one by one, and hiding them in the ground, for his future subsistence. In fine weather these animals will oftentimes quit their habita-

tion during the day, for the sake of basking in the sun. Their voice is a kind of yelping bark. The skin of the Fox is a warm and soft fur, which, in many parts of Europe, is used for muffs, and the linings of clothes.

The head of this animal is broad at the back, and sharpened towards the muzzle. The ears are erect and sharp-pointed, and the eyes very brilliant and expressive. The tail is bushy. The upper parts of the body are of a yellowish brown colour, and the under parts white. There is a white stripe on the under-side of each leg, and the tip of the tail also is white. The feet and the tips of the ears are black.

The Arctic Fox. The instances of cunning and sagacity which have been related of the Arctic Foxes are almost beyond belief. They are inhabitants of various countries in the frozen regions both of Europe and America. In the neighbourhood of Hudson's Bay they are so numerous, that more than four hundred of them have been killed, or taken in different ways, betwixt the months of December and March. They are in great request on account of their skins, the fur of which is light and warm, though not durable. The Greenlanders sometimes eat them.

In size these animals are not quite so large as the common fox. Their fur, during the summer, is bluish-grey; but, at the approach of winter, changes to white. The hair is very thick, long, and soft. The ears are short, and almost concealed in the fur. The feet are remarkably hairy, and the tail is straight and bushy.

14. CAT TRIBE.

Instead of openly pursuing their prey, like the dogs, the animals of the present tribe are solitary, and spring upon it by surprise. Several of the species are extremely dangerous foes of mankind.

Lion. At the same time that this is the noblest, he is the most tremendous of all animals. Hence he has been denominated the *king of beasts*. His form and appearance are strikingly bold and majestic. His large head, and shaggy, pendant mane; his strength of limb, and formidable countenance—exhibit a picture of terrific grandeur, which no words can describe. His voice, when irritated, is a horrible roar. He usually preys on horses and other large animals, and does not often attack mankind. So prodigious is his strength, that a single stroke of his paw is sufficient to break the back of a horse; and one sweep of his tail will throw the strongest man to the ground. The seizing upon his prey is generally accompanied with a loud and tremendous roar. When in quest of food, his roaring is even said to resemble distant thunder.—He does not, willingly, attack any animal openly, unless provoked or extremely hungry. In the latter case, he is said to fear no danger, and to be repelled by no resistance. The method in which he takes his prey, is, almost always, to spring, or throw himself upon it, with one vast bound, from the place of his concealment. — The Romans frequently exhibited these animals in their public shows. We are told, that Scylla, during his prætorship, exhibited a fight of a hundred Lions, all at the same time: that Pompey afterwards exhibited six hundred, of which three hundred and fifty were males; and Cæsar

four hundred.—Hanno, a Carthaginian, is said to have been the first person who tamed a Lion; and he was condemned to die, for what his fellow-citizens deemed so great a crime. They asserted, that the republic had to fear the worst of consequences from a man who had been able to subdue so much ferocity.—The reports of the ancients respecting the generosity of the Lion, his regard for weakness, and particularly the strength of his memory, are, in many respects, very extraordinary; and though not, perhaps, entitled to unlimited belief, yet there is reason to suppose that the greater part of them, at least, are founded in fact.—If we did not know the natural generosity of this stately animal, we should feel a great degree of terror in seeing the keepers of wild beasts play with him, pull out his tongue, and even chastise him (as they sometimes do) without a cause. The Lion called Hector, in the menagerie at Exeter 'Change, London, was so tame as to allow the keeper to enter his den, and play with him in the most familiar manner. And, such was his attachment to the man, that, during his absence, occasioned by illness, he refused a considerable part of his food, and exhibited symptoms of great uneasiness. As soon as the keeper recovered, he went up to the den; the animal seemed overjoyed at the re-appearance of his friend, and, from that time, took his food as usual.—The Lion has often been known to despise contemptible enemies; and even to spare the lives of such creatures as have been thrown to him, for the purpose of being devoured.—The notion, that these animals are terrified at the crowing of a cock, is entirely fabulous.—In confinement, they each devour about four pounds weight of raw flesh every day. Most of the Lions which are now brought into Europe are imported from Africa.

The Lioness is smaller than the Lion, and is entirely destitute of mane. The Lion is usually from six to eight feet in length, from the nose to the base of the tail, which has a tuft of hair at the extremity. His general colour is tawny, lighter on the under than the upper parts of the body.

Tiger. If we figure to the mind a cat so horribly enlarged in size as to measure six or eight feet in length, we have no very inadequate idea of a Tiger. Elegant in form, and beautiful in colour, he is, at the same time, the most deadly and ferocious of all beasts. In the lion we have numerous characteristics of nobleness and generosity, in the Tiger we remark only the most unrelenting and savage propensities. Nearly equal in strength, these two animals, when they have met in combat, have been known both to perish, rather than either of them to yield in the contest.—The power of the Tiger is so great, that he has been seen to throw a buffalo over his back, and carry it off with ease. He seizes his prey by concealing himself, and springing suddenly upon it; and his roar, whilst in the act of seizing his victim, is stated to be hideous beyond conception. The instances in which these dreadful beasts have preyed upon mankind are numerous, and too horrid to be dwelt upon in this place. Notwithstanding which, the hunting of them is considered a favourite diversion in the East Indies. These huntings are attended by considerable bodies of men, well mounted, and armed with spears.—The Tigress, like the lioness, produces four or five young ones at a litter; usually in some sequestered place, not far distant from the water.—If caught when young, the Tiger may, in some measure, be rendered tame; but when he grows up, he is by no means to be trusted. A

young Tiger, which was brought from China to England, in the year 1790, was as harmless and playful as a kitten. It would frequently run out upon the bowsprit of the vessel, climb about the ship like a cat, and perform a number of other tricks, with an agility which was truly astonishing. It was afterwards deposited in the Tower of London, where it was known by the name of *Harry*.—Tigers, in confinement, have frequently been known to permit dogs to live with them in their cages.—The skins of these animals are held in great estimation in all the eastern countries; particularly in China, where the mandarins cover their seats of justice with them.

The Tiger is one of the most beautiful of all quadrupeds. His hair is smooth and glossy, of a brownish-yellow colour, marked with numerous transverse black streaks.

Panther. A native of Barbary, and of several other districts of Africa, the Panther, like the Tiger, lives by carnage. During the night, he steals from his hiding-place, and roams around the dwellings of the inhabitants, for the purpose of seizing upon such of the domestic animals as may happen to lie exposed to his attack. His strength and agility are both great; and, notwithstanding his weight and size, he is able to pursue his prey even into the highest trees.

The Panther is an animal of large size, sometimes measuring five or six feet in length. His hair is smooth, and, on the upper parts of the body, of a bright tawny colour, with numerous black and somewhat annular marks, several of which have, in the centre of each, a black spot. The belly and insides of the thighs are white.

Leopard. In many respects, both of habit and appearance, the Leopard, though a considerably smaller animal, resembles the panther. He lies in ambush for prey, and voraciously seizes upon almost every kind of animal which he is able to conquer. The Leopard is a native of Africa, India, China, and Arabia.

He is about four feet in length; of a yellowish colour, and marked with annular spots.

Ounce. In several parts of Persia, China, and Africa, the Ounce is trained to the chase. He is carried upon a small leathern pad, on horseback, behind his keeper. When game is within view, he is ordered to descend; and in five or six leaps he generally succeeds in fixing himself firmly upon the neck of his prey, which usually consists of the different species of antelopes.

In size, the Ounce is smaller than the leopard. The hair is somewhat long and shaggy; and its colour a tawny white, with numerous black and irregular marks.

Puma, or Conguar. This animal, which is a native of Peru and Chili, is sometimes called the lion of South America, and inhabits the thickest woods and most inaccessible mountains. In seizing his prey he glides softly along upon his belly, and when within reach, springs suddenly upon it. In this manner he attacks and devours various kinds of large animals which frequent the plains. The Puma is hunted with dogs trained for the purpose. If caught when young, he may be tamed, and, in some degree, domesticated. He has sometimes, though rarely, been known to attack mankind.

In size the Puma is nearly as large as a wolf. Its fur is of an uniform brownish-red colour on the upper parts

of the body, and whitish beneath. The head is round, the ears short and somewhat pointed, and the eyes large. The tail is about two feet in length.

Margay. In Guiana, Brazil, and other parts of South America, this animal has the name of Tiger-cat. Its habits and its voice nearly resemble those of a wild cat : but it is not capable of being tamed. It resides chiefly in trees, where it preys on birds and other small game ; and its activity, in leaping about among the branches, is extremely great. The females produce their young ones, usually two in number, in the hollows of the trees.

The Margay is about the size of a large cat. The body is tawny on the upper parts, marked with black streaks and spots ; and on the under parts whitish.

Wild Cat and Domestic Cat. There is no quadruped which inhabits the British islands, so ferocious, so powerful, or so destructive, as the Wild Cat. It is, at present, unknown in the cultivated parts of the country ; but is yet, occasionally, to be seen in the woods which border the lakes of Westmorland and Cumberland. In the mountainous parts of Scotland, Wild Cats are still very numerous. They reside in the crevices of rocks, and sometimes in hollow trees, but generally in places inaccessible to man. Their food consists of birds, and every other kind of animal, which, by stratagem, speed, or strength, they are able to overcome. Even among lambs and poultry they are oftentimes known to commit great depredations. The Wild Cat has, with propriety, been denominated the "British Tiger." These animals breed three or four times in the year, and produce from three to six young ones at a litter.

The Common Cat is nothing more than the wild species

in a state of domestication. Its utility in pursuing and destroying the vermin, such as mice and rats, which infest our dwellings, have long rendered it a favourite in almost all countries where it is known. In Egypt these animals were formerly objects of sacred veneration; and wilfully to destroy a cat was considered a capital offence. Herodotus states, that whenever a cat died a natural death, the inhabitants of the house were accustomed to shave their eye-brows, in token of sorrow; and the animal so dying was embalmed and nobly interred. The disposition of the Cat differs greatly from that of our other domestic, the dog. The latter is mild and generous, and the former oftentimes treacherous and intractable. When young, it is one of the most active and playful of all creatures; but, as it grows up, it becomes gradually more and more sedate, until at length, it entirely loses its frolicsome propensities. Few animals are so tenacious of life as Cats. It has even been supposed that a Cat was able to sustain nine times the injuries which would kill any other creature. They are also capable of living, for a very great length of time, without food. An instance occurred, in the year 1781, of a Cat having been accidentally shut up, without nourishment, for twenty-four days, at the end of which time she was found still alive. These creatures are likewise endowed with the singular property of alighting on their feet, when they fall from a height. Being nocturnal animals, or such as are awake and on the alert for prey chiefly during the night, they are able to perceive objects, although not, as is usually supposed, in perfect darkness, yet certainly with much less light than most other animals. This is owing to the peculiar structure of their eyes: the pupil, or dark-coloured part in the centre, being contracted to a mere line in the broad day-light, and

in the dusk of the evening becoming quite circular. —The skins of Cats form a warm and comfortable fur; and, in some countries, are in great request. Their flesh is considered, by some of the negro tribes, as excellent food.

The Wild Cat is about four times as large as the Domestic Cat. The head and neck are, in proportion, much thicker; and all the limbs are much more strong. The teeth and claws are extremely large. The colour is generally a pale yellowish-grey, with dusky stripes; those on the back lengthwise, and those on the sides transverse and somewhat curved. The tail is thick, marked throughout with dusky rings, and always tipped with black at the end.

Common Lynx. In his general disposition and habits, this animal differs in very few respects from the other beasts of the savage tribe to which he belongs. Among the ancients he was proverbial for his piercing sight; they even went so far as to believe that he could see through stone walls. The Lynx is a native of most of the northern parts of the continents of Europe, of Asia, and America. His fur is soft and thick, and when of a pale or whitish colour, with the spots tolerably distinct, is considered very valuable.

The Lynx is nearly four feet in length, exclusive of the tail, which seldom measures more than about six inches. The ears are erect, and have several long, upright, black hairs at the tip. The head and upper parts of the body are of a greyish colour, tinged with red, and obscurely marked with small, dusky spots. The tail is black at the tip.

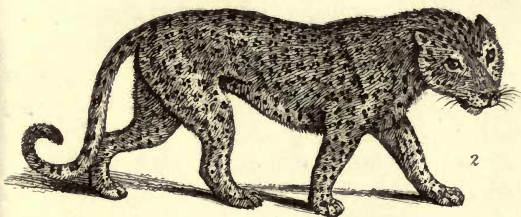
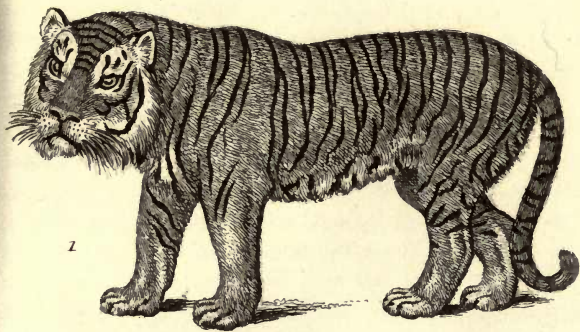
Persian Lynx, or *Caracal*. It is stated to be the habit of the Persian Lynx to follow the lion, for the purpose of feeding on the remains of his victims. Hence it is, that the Arabs, by a perversion of terms, have denominated him "the lion's conductor." He is so powerful, as to be able to overcome any animal of his own stature. When tamed, which, however, is attended with much difficulty, he is trained to the hunting of hares, rabbits, and even birds of large size; and in this pursuit he conducts himself with great skill and address.

His size is about that of the fox. The body is of a pale reddish-brown colour above, and whitish below. The head is small. The ears are long, slender, and black; and tufted with long black hairs. The nose is white. The eyes are small. The hind part of each foot is marked with black.

15. WEESEL TRIBE.

The animals which constitute the present tribe have long and slender bodies, and short legs. They chiefly move by a succession of leaps, and are very swift of foot. They all subsist on animal food.

Ichneumon. This is, with justice, considered to be the boldest, and, at the same time, the most useful of all the animals of the weasel kind. In Egypt it is tamed and kept in houses, for the same purposes as cats are in Europe. But its strength, its agility, and, in many respects, its sagacity, are much greater than those of the cat. In a wild state, it would seem that serpents and reptiles are its most natural food. These it unsparingly seizes whenever they come in its way. Its mode of attack is to steal towards its prey, gliding, as



Tiger 1. Leopard 2. Civet 3. Martin 4.

it were, on its belly, and then to spring suddenly upon, and seize it by surprise. It is also a great enemy to weesels, cats, and dogs; and it destroys the eggs of crocodiles, and kills the young of these horrible creatures in great numbers, thereby performing an invaluable service to the inhabitants of that country. The notion, that the Ichneumons destroy the full-grown crocodiles, by entering into their mouth, when asleep, and preying on their entrails, is, however, entirely fabulous.—These animals principally frequent the banks of rivers; and they both swim and dive with great facility. By the ancient Egyptians they were held in such veneration, that divine honours were paid to them.

The length of the Ichneumon, exclusive of the tail, is from fourteen to about twenty-two inches; and the tail is nearly of the same length as the body. The fur is coarse, rough, and of a pale reddish-grey colour, each hair being mottled with brown and mouse-colour. The tail is thick at the base, from whence it gradually tapers almost to a point, where it is slightly tufted. The eyes are of a bright red colour; and the legs are short. Under the tail there is an orifice which leads to a kind of pouch, where a strong and odoriferous liquor is secreted.

Brasilian Weesel, or Coati Mondí. Although by no means an agile animal, the Brasilian Weesel is able, with facility, to climb trees in pursuit of prey. It likewise digs up the ground with great ease, in search of worms and the grubs or larvæ of beetles. Its chief food, however, consists of birds, eggs, and small quadrupeds. In walking, it carries its tail nearly in an upright position. When irritated or offended, it emits an intolerable odour. Notwithstanding this, the inhabitants of several parts of

South America are partial to its flesh as food. One circumstance in this animal is very remarkable, that its tongue is divided into lobes, and somewhat shaped like an oak-leaf.

The size of the Brazilian Weesel is nearly that of a hare. Its general colour is reddish-brown, spotted with white on the back, and whitish beneath. The hair on the back is long and coarse; and on the other parts, smooth, soft, and glossy. The ears are small, rounded, and black at the tip. The muzzle is lengthened into a snout, of a black colour, which is movable in every direction. The tail, of which the hair spreads out on each side, is nearly as long as the body, of a brown colour, and has ten pale or whitish rings.

The Striated Weesel, or Skunk. In some parts of North America these animals are very numerous. They reside in holes, which they dig in the ground; and are seldom to be seen abroad, except during the night, when they prowl about in search of food. If attacked, their mode of defence is by emitting from their body a vapour or stench, so horribly offensive, that scarcely any creature is able to come within its influence. Some writers have gone so far, as to assert that it may be smelt at the distance of nearly half a mile. Clothes will retain the odour for weeks after they are infected by it, however often they be washed, or how long soever they may be soaked in water. Provisions infected with it are totally destroyed as food. Notwithstanding this, the animals are capable of being reduced to a state of domestication; and, in many parts of America, are tamed, and allowed to run about the houses. In this state they are seldom known to be, in any degree, offensive to their masters,

otherwise than by occasionally destroying poultry and eggs.

The length of the Skunk is about eighteen inches, exclusive of the tail; and of the tail about fourteen inches. It is of a blackish colour, with five parallel white stripes, from the head, along the back and sides, to the tail. The neck is short; and the legs are also short and black. The tail is usually carried over the back, and is covered with very long hair, which is whitish towards the extremity.

Civet, or *Civet-Cat*. This animal is remarkable for producing the drug, or perfume, called civet, which has sometimes been confounded with musk, but which is a very different kind of substance. This is taken from a kind of pouch, situated at a little distance beneath the tail. The animals are kept in wooden cages, on account of this perfume, which is nearly of the consistence of soft pomatum, and which is scraped out, with a small wooden spoon, two or three times a week. In its general manners, the Civet somewhat resembles a cat, jumping and running about in the most sprightly and frolicsome manner imaginable. It is a native of Egypt, Ethiopia, Guinea, and the Cape of Good Hope; and feeds on small animals, particularly on birds and their eggs. It is, likewise, very fond of fish. Although naturally of a ferocious and savage disposition, it has frequently been rendered tame and familiar. Its voice somewhat resembles the cry of an enraged dog.

The Civet is about two feet in length, and the tail is half as long as the body. The general colour of the body is a yellowish ash-grey, marked with large blackish, or dusky, and some grey spots and stripes. The hair is long and coarse, and, upon the ridge of the back, forms

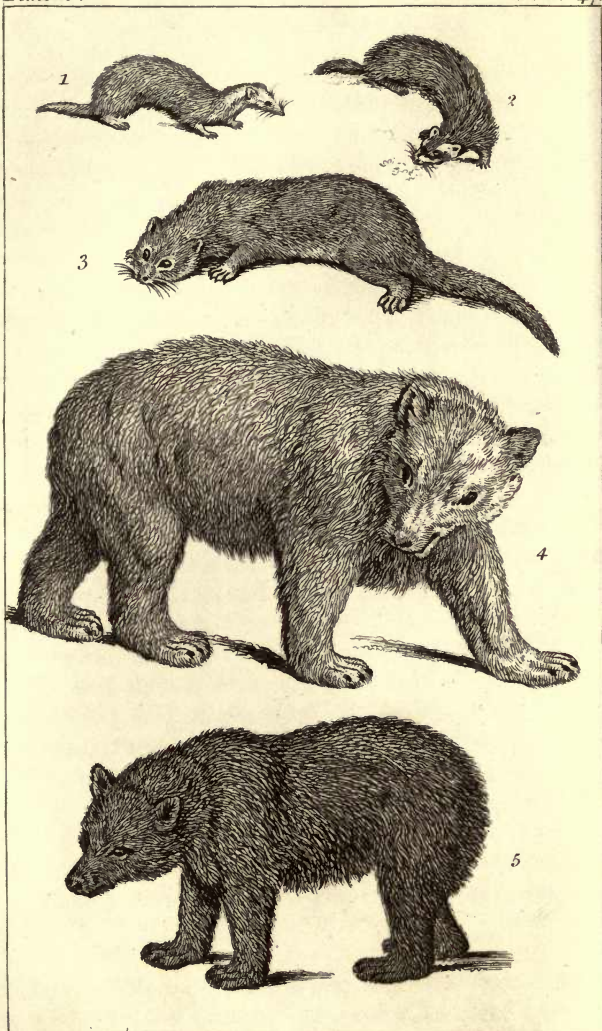
a kind of chesnut-coloured mane. The nose is sharp, and black at the tip. The ears are short and rounded; and three white stripes proceed from each ear, and end at the throat and shoulders. The face is spotted under the eyes. The tail is spotted on its upper part, and dusky towards the point.

Genet. Like the civet, this animal is provided with a pouch under the tail, in which is produced a kind of perfume, but of very weak smell, comparatively, with that of the civet. The Genet is found wild in various parts of Asia, in Spain, and the South of France, frequenting, principally, marshy places, and the neighbourhood of brooks and rivers. It is a beautiful and cleanly animal, and in disposition so gentle, that it is oftentimes tamed, and allowed to run about the houses at liberty. And, in return for the kindness it receives, is nearly as useful as a cat, in destroying rats and mice. Its skin is considered a valuable fur.

In length, the Genet usually measures about seventeen inches, and the tail is nearly a foot long. The hair is soft, shining, and of a greyish ash-colour, marked with black spots, which are round and detached on the sides, but unite on the back, so as to form the appearance of continued black, longitudinal streaks. The head is slender, and the muzzle sharp. On the neck and upper part of the back there is a kind of black, upright mane. The tail has seven or eight black, and as many whitish rings.

Common Martin and Pine Martin. The habits and economy of these animals appear to be in every respect the same. Each of the species is found not only in England, but throughout the whole continent of Europe.





Ferret 1. Polecat 2. Otter 3. Polar Bear 4. Black Bear 5.

They chiefly frequent woody and mountainous tracts. All their actions are marked by gracefulness and agility; and, in their general appearance and manners, few animals are more elegant or interesting. They climb, not only trees, but walls, with the greatest ease. They frequently enter poultry and pigeon-houses, where they destroy, in abundance, eggs, fowls, and pigeons. They likewise devour, with great eagerness, rats, mice, and moles. Their principal time of coming forth from their hiding-places, in search of prey, is during the night. They form their nests, and produce their young ones, usually three or four in number, in holes of decayed trees, or old walls; and they are sometimes known to take possession of deserted rabbit-burrows. In the nest of a Martin, which was shot on the moors near Holmfirth, in Yorkshire, there were found as many feathers, feet, and bones of birds, as would have filled a couple of bushels: such is the voracity, and such the ability of these animals in the procuring of prey. They have a musky smell, which, to some persons, is very pleasant. Their cry, which is never uttered except when in pain or distress, is sharp and piercing. They are hunted, in some countries, for the sake of their skins, which, as fur, are employed in the lining of robes, and for other purposes; and of which several thousands are annually imported into England from Canada and Hudson's Bay.

The chief difference betwixt the Common and Pine Martin is in the former having a white, and the latter a yellow throat and breast. Their length, to the base of the tail, is about eighteen inches; and the tail is ten inches long. The head is small, the eyes are prominent, and the ears broad, rounded, and open. The legs are very short. The fur is of a black tawny colour on the

upper parts of the body; and the hair of the tail is very long, particularly towards the end.

Sable. The skins of these animals are more valuable than those of, perhaps, any other known quadruped; selling at the average price of from one to ten pounds each, according to their blackness and their quality in other respects. Sables are found in several of the northern parts both of Asia and America, but particularly in Siberia; and the labour of hunting them is said to fall chiefly to the lot of criminals, who are banished from Russia into that dreary and inhospitable region. Thus it is, in this instance, as in many other, that the luxuries and ornaments of the vain are wrought out of the perils and miseries of the wretched. These are nocturnal animals, sleeping in their holes underground during the day, and issuing from thence at the close of evening in pursuit of prey. Their habitations are generally in the banks of rivers and in woods. Few creatures are more agile than these, climbing into and leaping about among the branches of trees with great ease and lightness. During the summer they feed on hares, weesels, birds, and other small animals; and in winter, when these are not so accessible, on different kinds of berries. Their smell is fetid and offensive. They produce from three to five young ones at a litter.

In many respects the Sable has a near resemblance to the martin. Its ears and head, however, are longer, and the former are surrounded with a yellow margin. The fur is long, and usually of a tawny-brown or blackish colour. The tail is shorter than the hind legs, whilst that of the martin is much longer. The forehead is white, and the throat cinereous. These animals are sometimes found of an entire snowy white colour.

Polecat, or Fitchet. Very abundant in the neighbourhood of farms, in some parts of England, these animals often commit great ravages in poultry-houses. They likewise destroy rabbits and other game. In their general habits of life they are nearly allied to the martins. During the summer they usually reside in woods, thick brakes, and the neighbourhood of rabbit-warrens. In these situations their retreats are seldom of greater depth than from about five to seven feet; and such is their voracity, that a single family of Polecats, if undisturbed, would be able, in some instances, to destroy a whole warren. They have been known, occasionally, to prey on fish. Their voice is a somewhat deep and hollow growl. The skins of such of the animals as are killed in winter, are reckoned more valuable as furs, than those which are killed at any other season of the year. The smell of the Polecat is proverbially fetid. Towards the beginning of summer they produce their offspring, which are usually from three to six in number. In the northern regions these animals sometimes become white in winter.

The general length of the Polecat is about seventeen inches, and that of the tail from three to six inches. The legs are short; and the tail is covered with longish hair, but is not, as in the martins, particularly bushy towards the end. The colour of the fur is a deep chocolate, nearly approaching to black. The ears are rounded, and, as well as the muzzle, are tipped with white.

Ferret. An inhabitant, originally, of Africa, but imported into this country from Spain, the Ferret is rendered of considerable use in a domestic state. It is chiefly employed by the proprietors of rabbit-warrens, for the

driving of these animals out of their holes or burrows. In this operation the Ferret is muzzled, in order to prevent it from devouring the rabbits, and has a small bell round its neck, in order that its progress under the ground may be traced. Ferrets are generally kept in casks, or chests, well supplied with hay or straw. Their smell is excessively powerful and unpleasant. They sleep much, and, when they awake, they almost always express a strong desire for food.

The Ferret is not quite so large as the polecat. Its hair is coarse, and of a dirty pale yellow colour. The tail is about five inches in length; and the eyes are remarkably red and fiery.

Common Weesel. Small as the Weesel is, it is daring enough to attack, and has sufficient strength to overcome, both quadrupeds and birds which are considerably larger than itself. The havoc which it sometimes commits amongst the rabbits of a warren, is great beyond conception. In one instance there were as many as fourteen couple of young rabbits found in the hole of a Weesel, and as many as eighty field-mice were discovered in that of another. In hen-roosts the Weesel is sometimes guilty of great carnage, singling out the pullets and chickens, biting them in the head, to kill them; and then, one by one, carrying away, carefully, what he has destroyed. He seldom eats his food until it is nearly in a putrid state. He sucks eggs, by biting a small hole at one end, and from thence licking out the contents. During the winter, the habitations of Weesels are generally in granaries, barns, and other out-buildings; and in summer they take up their abode in thickets and hedge-rows. Their voice, which is never exerted but when in pain, is a rough cry, very expressive of anger.



Badger 1. Glutton 2. Raccoon 3. Virginian Opossum 4. Kangaroo 5.



Their smell is strong and offensive, and much more perceptible during hot than cold weather. The female generally produces her five or six young ones, in a comfortable nest, of straw, leaves, or moss, in some out-house or decayed tree. Numerous instances have occurred of Weesels, when caught young, being tamed; and in this state they become mild and engaging. Their smell, though unpleasant, may, in a great measure, be dispelled by means of perfumes. In cold climates they change their colour, and in the winter become perfectly white.

The length of the Weesel is about seven inches, and of the tail two inches. The tail is somewhat pointed, and not bushy towards its extremity. All the upper parts of the body are of a yellowish-brown colour, and the under parts white. On each side of the head, a little below the corner of the mouth, there is a dark brown spot; and at the posterior angle of each eye, a white spot. The ears are whitish at the edges.

Stoat and Ermine. In these animals, which are of the same species, the appetite for food, the mode of pursuing and killing their prey, and the manner of forming their nest and producing their offspring, are similar, in almost every respect, to those of the Weesel. They are excessively bold and ferocious, and have frequently speed fairly to run down either a hare or a rabbit. During the summer-time the upper parts of their body are of a brown colour, and in this state they are called *Stoats*; but, in the northern countries of Europe, they become white in the winter except the tip of the tail, which always continues black, and under this appearance they have the name of *Ermines*. Their skins, when white, are a valuable article

of commerce, being employed for ornamenting robes of state, and for various parts of female dress. The black tips of the tails are peculiarly estimable, and sell at high prices.

These animals are about ten inches in length, exclusive of the tail, which measures nearly five inches. The under parts of the body are either white or yellowish. The tail is bushy towards the extremity, and black at the tip.

16. OTTER TRIBE.

All the Otters are web-footed, and, in some measure, amphibious animals. They reside almost constantly in the water, and feed on fish. There are, in the whole, about eight species.

Common Otter. Furnished with strong and powerful limbs, and feet webbed, like those of a waterfowl, this animal is enabled to swim, and particularly to dive, with great ease and rapidity. His pursuit in the water is fish, on which he feeds with astonishing voracity, and oftentimes kills many more than he devours. Of the Otter it has been remarked, that he frequently will commit as much havoc in a fish-pond, as the polecat does in a hen-roost. He is a cunning, and at the same time exceedingly ferocious beast; and, if attacked, will defend himself with courage and vigour to the last. It is said that he is only to be caught by means of unbaited traps, being so delicate in his feeding, as to reject every kind of bait. The residence of the Otter is always in the neighbourhood of the water, and most commonly in the bank of some river or brook. This is a den, or burrow, several feet in depth, but so situated, as to be

out of the reach of the water, even in the highest floods. Here the animals produce their young ones, usually four or five in number, in the month of March. In those parts of the country where Otters are numerous, they are frequently pursued by sportsmen, as an object of chase; and with dogs trained for the purpose. In the severe weather of winter, when the rivers are frozen, and fish is not easily to be procured, the Otter will kill lambs or poultry; and sometimes will enter rabbit-warrens, for the purpose of preying upon those animals. Otters are frequently brought up tame; and in this state, have been trained to catch fish, and bring them out of the rivers or ponds to their master. Their skins are of considerable value as furs. These animals are found not only in England, and nearly all other parts of Europe, but also in North America; and in Asia, as far south as Persia.

They are generally somewhat more than two feet in length; and the tail, which is thick towards the base, is about sixteen inches long. The head is short and oval, the muzzle short, and the neck thick. The ears are rounded and very small. The legs also are short, but peculiarly strong; and so loosely jointed that the animal is able to turn them quite backward. The colour of the Otter is a deep brown, except a small white spot on each side of the nose, and another under the chin.

Sea Otter. On the sea-coasts of the north-western parts of America, and of eastern Asia, these animals are found in great numbers. In their general manners they are perfectly harmless and inoffensive; and their attachment to their young ones is so remarkable, that, it is said, they will even starve themselves to death, if robbed

of them. They feed on lobsters, crabs, fish, and other marine animals. Their skins are so highly valued, that they form a very lucrative branch of commerce.

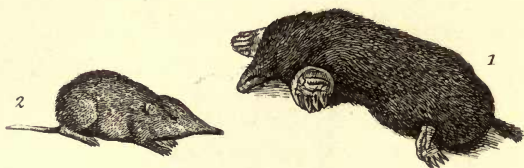
They are about twice the size of the Common Otter. Their fur is extremely soft, and of a fine, glossy, black colour. The tail is about one fourth of the length of the body. The legs are short and thick ; and the hinder ones somewhat resemble those of a seal.

17. BEAR TRIBE.

In walking, these animals apply the whole sole of their foot to the ground. Though chiefly of large size, many of the species are able, without difficulty, to climb into trees. The greater part of them subsist only on animal food.

Black Bear. Few foreign animals are better known in this country than the Bear ; and this chiefly from the circumstance of its being led about, from town to town, for the purpose of exhibition. Its naturally ferocious disposition is subdued by means which are extremely cruel : and it is compelled to walk upright, for the purpose of amusing a crowd of idle spectators, and affording a wretched means of subsistence to its owner. In a wild state, the Black Bears are found in almost all the northern parts of Europe, Asia, and America ; as well as in Greece, Palestine, Egypt, and even the East Indies. They feed not only on the bodies of animals, which they pursue and kill, but also on roots, fruit, and other vegetable substances. In those countries where the frosts are severe, they pass the winter in dens, (which they form under the surface of the ground,) nearly in a torpid state. From the circumstance of their being





Mole 1. Shrew 2. Porcupine 3. Hedge Hog 4. Guinea Pig 5. Beaver 6.

able to subsist for so great a length of time without food, there is a vulgar but erroneous notion, that they live by sucking their paws. Another notion, equally prevalent, and equally false, is, that their young ones, when first produced, are rude and shapeless masses, and that they are licked by their parents into form. Bears are strong and powerful animals. When attacked, they either strike their assailant with their paw, or endeavour to suffocate him by seizing and hugging him to their breast.

White or Polar Bear. The natural temper and disposition of these animals is infinitely more savage than those of the black bear. They have frequently been known even to attack mankind ; but their usual food consists of seals and fish. They bring forth their young ones in the depth of winter, and sometimes even upon the ice. Their howling, in the frozen and inhospitable regions of the north is heard to vast distances, and, in the midst of darkness and horror, fills the hearer with the most dreadful sensations of alarm. So expert are they in swimming, that, in the summer-time, they occasionally pass from one ice-island to another, though several leagues asunder. When these animals are kept for the purpose of exhibition, it is necessary to have their bodies constantly wetted. The keepers of wild-beasts generally call them Sea-Lions. They are natives of all the sea-coasts within the Arctic circle ; and are particularly numerous in Greenland, Spitzbergen, and Nova Zembla.

The length of the Polar Bear is generally from nine to twelve feet. The head, neck, and body, are, in proportion, much longer than those of the black bear. The

tail is very short. The fur is long, soft, and shaggy; and generally of a yellowish or dirty white colour. The tip of the nose, and the extremity of the claws, are perfectly black.

Common Badger. Although the Badger is by no means an uncommon animal in several of the less cultivated parts of England, yet, from the circumstance of its issuing forth only during the night, it is but seldom seen. In all its habits it is solitary and indolent; and the greater part of its life seems passed in sleep. Its food is supposed chiefly to consist of roots, plants, insects, and worms. From the shape of its nose, it is evident that the Badger occasionally turns up the ground in search of food. Its den is generally at a considerable depth in the earth. So great are the strength and courage of this animal, that he is able to defend himself against the attack of dogs which considerably exceed him in size. The skin of the Badger is useful in various ways: the hair is made into brushes: and the flesh is, in many countries, esteemed an excellent food. The hams are said to be even superior in flavour to those of the hog.

The length of the body is generally about thirty inches, and of the tail six inches. The head is shaped somewhat like that of a dog. The eyes are small, and the ears short and rounded. The legs are peculiarly short and strong, and the claws of the fore feet are much longer than the others. On each side of the head there is a long black mark, which includes both the eye and ear. The general colour of the upper part of the body is grey. The throat and all the under parts, as well as the legs and feet, are black.

Glutton. The mode in which these most voracious animals are said to lure and seize upon their prey is very remarkable. They are stated to climb into trees, in the neighbourhood of herds of deer, and, carrying along with them a quantity of a kind of moss to which the deer are partial, as soon as any one of them approaches their station, they throw it down. But no sooner does the animal begin to partake of it, than the Glutton drops upon its back, and, in a short time, destroys it. This is not the only food on which this creature subsists. He also destroys hares, mice, birds, and even feeds on dead and putrid carcasses; and, it is stated, that, so long as a vestige of any of these remain, he will not leave his prey. When caught young, the Glutton may easily be tamed. His fur is reckoned valuable. This animal is found in all the countries, both of Europe and America, which border upon the Northern Ocean; and also in Poland and Germany.

It is about three feet in length, exclusive of the tail, which is nearly a foot long. The body and tail are of a glossy black, or dark brown colour, appearing watered or damasked, like silk, with a tawny line down the middle of the back. The legs are thick, short, and strong. The head is round, and the nose blunt. The ears are short and rounded, but somewhat pointed at the tip. The tail is very full of hair.

Raccoon. This is a most active and sprightly animal, yet all its motions are performed in a singularly oblique manner. It inhabits the mountainous parts of America, and of several of the West India Islands, residing chiefly in hollow trees. Into these it ascends with the greatest facility, and sports about in an easy

and graceful security, even among the extremest branches. The Racoons descend into cultivated grounds, for the purpose of feeding on maize, sugar-canes, and fruit. In the sugar-plantations they are said sometimes to do more damage in one night, than can be repaired in a month ; and the planters have, to little purpose, tried every method in their power to destroy them. But so delicate are their sensations of smell and touch, and so tenacious is their memory, that they avoid all kinds of snares which are set to catch them. They occasionally devour small birds and their eggs ; and feed with great avidity on shell-fish, particularly on oysters. They are easily tamed, in which state they are good-natured, sportive, and cleanly, but nearly as inquisitive and mischievous as monkeys. They sit upright on their hind feet, and carry the food to their mouth in their paws. Whenever they have opportunity, they always dip their food into water before they eat it. They are chiefly active during the night.

The Racoon is about the size of a small dog. The colour of the upper parts of the body is grey. The head is dusky ; and the nose sharp, like that of a fox. The face is white ; and the eyes are surrounded with a black band, from which a dusky stripe runs along the nose. The tail is long, bushy, and marked with several black rings. The back is somewhat arched, and the fore legs are shorter than the others.

18. OPOSSUM TRIBE.

It is chiefly in hot climates that the animals of the present tribe are found. They frequent only the wooded parts of the countries. The females are remarkable for having, on their belly, a pouch, opening

externally, in which they nourish and keep their young ones.

Virginian Opossum. In Virginia, and other parts not only of North but of South America, these animals are found. They conceal themselves in thickets and amongst the branches of trees, for the purpose of more readily and securely seizing upon their prey, which consists chiefly of small birds, reptiles, and insects. They, however, also feed on sugar-canes, roots, and even the leaves and bark of trees. They do not run with any degree of swiftness upon the ground; but in climbing trees they are sufficiently alert, and are enabled to leap from tree to tree, with all the agility of a monkey. They are able also to suspend themselves, for hours together, by their tail, the end of which they coil round the branches. When pursued and overtaken, they feign themselves to be dead.—The females are furnished with a pouch in front of their belly, for the protection and preservation of their young ones. When these, which are generally from four to six in number, have attained sufficient size and strength to run about, they use this pouch as an asylum from danger; and may not unfrequently be seen running in and out of it, in the most sportive manner. If they happen to be surprised, and have not time to run into the pouch, they nimbly coil their little tails round the tail of their parent, and thus escape, forming a most singular and whimsical group. The Indians eat the flesh of the Opossum. They also spin the hair, and weave it into garters, girdles, and ornamental parts of dress.

This animal is about as large as a small cat. Its hair grows nearly upright, and is generally of a dingy white

colour. The nose is sharp, and the mouth peculiarly wide. The face is white, with a dusky space round the eyes. The tail, which is shorter than the body, is hairy at the base, naked towards the extremity, and covered with a scaly skin. The legs are short and blackish. The nails of the two inner toes are flat, like those of a monkey, and all the rest are hooked and sharp.

19. KANGUROO TRIBE.

In many respects, both of structure and habit, the Kangaroos have a near resemblance to the opossum; but more particularly in the females having a pouch on their belly. Their fore legs are short, and the hinder ones peculiarly long.

Great Kangaroo. In a wild state, in New Holland, their native country, these animals lurk among the long grass, leaping upon their hind legs, almost like great birds, but with such singular swiftness as to escape the pursuit even of the fleetest greyhound. When in motion, they carry their tail nearly at right angles with the body. They live wholly on vegetable food, and principally on grass; herding in troops of thirty or forty together, of which one is usually stationed on watch, at a little distance from the rest. Although naturally timid, they have strength and courage sufficient to enable them to defend themselves against the attacks even of powerful enemies. They fight with their teeth, claws, and tail, the latter of which is so thick and strong as to be capable of breaking a man's leg. The females seldom have more than a single young one at a birth. This, for some time after it is produced, finds a place of shelter and retreat in the pouch of its mother. For several years past, there have almost always been

one or more of these interesting animals in the exhibition rooms at Exeter 'Change; and several of them are allowed to run about, almost wild, in the park at Kew.

Such is their size, that some of them have been known to measure as much as nine feet from the tip of the nose to the end of the tail. They are peculiarly thick round the belly and hips, tapering gradually upward towards the head. The fore legs are seldom more than about one-third the length of the hind ones. The latter are naked on the under side, from the circumstance of the animals constantly resting upon them. The claws are three in number, of which the middle one is by much the largest: this is divided through its whole length, and the division is continued even through the ball of the toe. The two front teeth in the lower jaw are so constructed, that the animal has the power of separating and closing them at pleasure. The ears are erect. The fur is soft, and of a somewhat cinereous colour.

20. MOLE TRIBE.

All the animals of the present tribe live in burrows, which they form under the surface of the ground. They have no external ears; and their eyes are so small as scarcely to be visible.

Common Mole. Miserable and wretched as many persons may, thoughtlessly, be inclined to consider the Mole, if we carefully examine into his wants, and attend to his habits of life, we shall find that he has every requisite for his situation and circumstances. By means of his strong and powerful fore feet he is enabled to dig his subterraneous passages with singular quickness and

ease. His nose, formed like that of the hog, is admirably calculated for searching out his food, of worms, insects, and the roots of grass and other vegetables. His eyes, it is true, are minute; so much so, indeed, that many persons have considered him to be blind: yet these eyes, such as they are, possess every requisite for distinct vision.—Moles are usually at work, during fine weather, about sun-rise; and again at the end of about every four hours until dark. In the winter they burrow so deep into the ground as to be out of the reach of injury by frost. A single Mole will oftentimes make as many as nine or ten of those hillocks of earth which we observe in meadows and pastures. These hillocks are thrown up for the purpose of clearing the earth out of their passages or galleries. When dug out of the ground, and seized in the hand, they utter a shrill scream; and, if care be not taken to prevent it, will bite very severely. They produce four or five young ones at a litter, and this generally about the month of April. Their nest is formed under the surface of the ground, of leaves and grass. These animals prove sometimes injurious to the farmer, by undermining his fields in various parts, and throwing up numerous hillocks. They are caught by means of traps, which are set in their galleries, by persons employed for that purpose, called mole-catchers, who are paid for this work, at a certain stipulated rate per dozen.

The usual length of the Mole is about five inches, and the tail is about an inch long. The head is large, and terminates in a cartilaginous snout. The neck is peculiarly short and thick; and the eyes, as before observed, are so minute as scarcely to be perceptible. The fore feet are short, but excessively strong and broad: they

are situated outward, and are furnished with large claws. The hind feet are much smaller. The fur is short, close set, softer than the finest velvet, and generally of a glossy black colour.

21. SHREW TRIBE.

The Shrews are nearly allied both to the moles and the mice. By means of their snout, they root up the ground in search of food, which chiefly consists of worms and insects.

The Common or Fetid Shrew. Smaller than the mouse, this little creature generally resides in a burrow under the surface of the ground, in some hedge-row, or other secure place, in the neighbourhood of hayricks or dung-hills. In the latter it roots with its snout, in the manner of a hog, in search of worms, the grubs of insects, and other food. Its voice is a shrill kind of whistle, not unlike that of some species of grasshoppers. There is prevalent an absurd notion, that the bite of these animals is injurious to horses. Their smell is musky, but, at the same time, extremely nauseous. Cats kill them eagerly, but never eat them.

The length of the Fetid Shrew is about two inches and a half, and of the tail somewhat more than an inch. The snout is long and slender; and the eyes are so small, as almost to be concealed in the fur. The ears are short and rounded. The colour is a dusky red on the upper parts of the body, and white beneath.

Pigmy Shrew. This animal, a native of Siberia, is only mentioned here from the circumstance of its being the smallest known quadruped, its weight scarcely ex-

ceeding the sixteenth part of an ounce. In general shape and colour it much resembles the last species.

22. URCHIN TRIBE.

The Urchins feed on worms and insects, which they root out of the ground in the same manner as the shrews. The upper parts of their body are covered with spines, and the under parts with bristles.

Hedgehog. Notwithstanding his formidable weapons and appearance, the Hedgehog is one of the most harmless and innocent of all animals. He has been accused, but unjustly, of sucking cows and sheep; and also of carrying off fruit upon his prickles. When attacked or alarmed, he instantly draws in his legs, puts his head under his breast, rolls himself up into a ball, exhibiting only an exterior armed with sharp and pointed weapons. Whilst thus folded together, no power, short of tearing the animal to pieces, would compel him to relax and open. These animals conceal themselves, during the day, in hedge-bottoms or thickets, and pass by far the greatest part of their time in sleep. They issue from their concealment only in the evening and night, for the purpose of procuring food. This consists chiefly of worms, snails, insects, and roots. At the commencement of winter they form a nest of moss, leaves, and grass, into which they retire; and they continue during all that season without eating, and in a torpid state. When tamed, they will run about the house, and effectually destroy beetles, cockroaches, and crickets, with which it may be infested; and, instead of being injurious in gardens, they are useful, in ridding them of insects and worms. Their smell is powerful and unpleasant.—They are found in almost every

country of Europe, and even in the southern districts of Siberia.

The upper parts of the Hedgehog are covered with spines, interspersed with bristles; and the under parts with hair. This animal is about ten inches in length, and the tail is an inch long. The ears are upright and rounded; and the nostrils bordered on each side with a loose flap of skin. The hair is of a yellowish ash-colour, mixed with white. The spines are whitish at each end, and have each a black bar in the middle.

ORDER IV. GLIRES.

23. PORCUPINE TRIBE.

These are animals only of warm climates. They reside in burrows or dens, under the surface of the ground; and feed on roots, fruit, and vegetables. Their bodies are covered with spines and hair.

Common or Crested Porcupine. The upper parts of the Porcupine are clad with numerous quills, strong, sharp at each end, and from nine to fifteen inches in length. There is a vulgar notion, that the animal is able to dart these at its enemies, but this is founded entirely in error. Whenever the Porcupine is threatened with danger, it reclines on one side, and presents on the other a most formidable apparatus. We are told that, in this position, he is secure from the attacks even of the lion. The wounds inflicted by these quills are said to be painful, and difficult to heal. In a wild state, Porcupines are asserted, by some writers, to feed on reptiles and serpents; and by others, to subsist on roots,

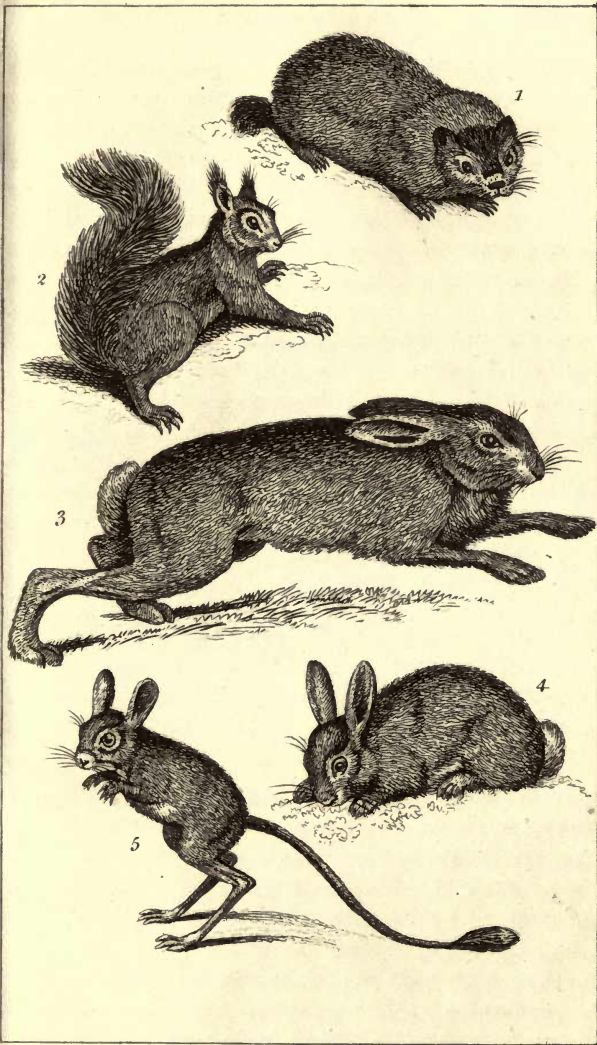
fruit, and vegetables. They are natives of various parts of India and Africa, and are occasionally found in Italy and Sicily. They live in dens or burrows in the ground, and run abroad only during the night. The number of young ones which they produce is seldom more than one or two at a birth.—In their general habits and manners they are so harmless and inoffensive, as never to be the aggressors. In confinement, although they will eat bread or roots out of the hand of their keeper, they never appear to exhibit any particular attachment for him. Their teeth are so powerful, that one of them has been known, in the course of a single night, to gnaw through the staves of a strong tub, in which he was kept.

The Porcupine is about two feet in length. The top of his head is furnished with a crest of spines, which curve backward. The spines on the upper part of his body are each variegated with black and white rings. The head, belly, and legs, are covered with strong dusky bristles, intermingled with hair.

24. CAVY TRIBE.

In their general manners, these animals resemble, in some measure, both the rabbit and the mouse. They burrow under the ground, and subsist entirely on vegetable food.

Guinea-Pig, or Restless Cavy. The Guinea-pig is found, in a wild state, in Brazil and other parts of South America. Few animals are more cleanly or harmless than these. They subsist on fruit, grain, and plants; and are so prolific, that they produce three or four young ones at a litter, and this five or six times in the year.—They are easily tamed. In this state it is



Marmot 1. Squirrel 2. Hare 3. Rabbit 4. Jerboa 5.



observed, that they seldom run across the room, but generally creep round by the wall. They are fond of dark places, and are so timid as seldom to venture out when danger is near. They sleep with their eyes half open; and are very watchful, the male and female seldom sleeping at the same time, but seeming alternately to watch for each other. Their usual voice is a kind of grunting noise; but when in pain their notes are shrill and piercing.

These well-known little animals differ much in colour, but they usually are variegated with white, tawny, and black. Their tail is shaped like a small button, and so extremely short as scarcely to be visible. The body is thick, and the neck short.

All the other animals of this tribe are likewise natives of South America.

25. BEAVER TRIBE.

Only two species of this tribe have been hitherto discovered, the Common and the Chili Beaver. And there is some doubt, whether the latter ought not to be arranged amongst the otters.

Common Beaver. It is only in the midst of those deserts of Europe, Asia, and America, which are out of the reach of man, that these most interesting and sagacious of all animals are able to live in peace. Here, assembled together, in communities of two hundred and upwards on the banks of some river or lake, they construct their habitations, collect their food, and produce and rear their offspring. Their habitations are each six or eight feet in height, of a circular or oval shape, rounded at the top, and have somewhat the ap-

pearance of ovens. The number in one place is generally from ten to thirty. If a colony of Beavers fix their residence in the neighbourhood of a stream, which they usually prefer to any other place, their first operation is to form a dam across it. This they always do in the part which is most favourable for the purpose. Their operations are commenced by driving stakes, of considerable length, into the ground, in different rows. These they interweave with the branches of trees; and they fill up the spaces that are left, with clay, stones, and sand. In these operations, as well as in carrying heavy burdens, they are said, frequently, to employ their tails. The houses are constructed of earth, stones, and sticks, firmly cemented together, and plastered in the inside with singular neatness. Some of the houses have only one floor, others have three; and the number of Beavers in each house, is from two to thirty.—The food of these animals consists, principally, of the bark and tender branches of trees, of which, in the autumn, they lay up a considerable store, for their winter provision. They breed about the end of June, and seldom produce more than two young ones at a birth. Beavers are hunted for the sake of their skins, immense numbers of which are, every year, imported from Canada, and other northern parts of America, into Europe. More than a hundred thousand of these skins were collected in Canada, in the year 1798, and sent into Europe and China. The flesh of the Beaver is in great esteem as food; and a drug, called *castor*, is produced from its body.

The body of this animal is about three feet in length. The tail, which is nearly a foot long, is flat, naked, and is marked into scaly divisions, like the skin of a fish. The hair is fine, smooth, glossy, and of a dark brown, or sometimes blackish colour. The hair is of two

kinds, one of which is long, and the other short, and as fine as down.

Chilese Beaver. This species frequents the most retired parts of the rivers and lakes of Chili, in South America, where it feeds, principally, on fish and crabs. It does not exhibit any of those wonderful traits of sagacity, in the construction of its dwelling, which are so remarkable in the common beaver.

26. RAT TRIBE.

This is a very numerous tribe. Most of the animals live in holes of buildings, or under the surface of the ground.

Musk Rat. In many of their habits, these animals exhibit no small resemblance to the beaver; residing in the neighbourhood of rivers and streams, where they construct their habitations of reeds and plants, cemented together with clay, and covered with a dome. These habitations are generally about thirty inches in width, and of a proportionate height, and each of them affords space for several families. The Musk Rats feed on roots, herbs, and sometimes on muscles and other shell-fish. They are natives of several parts of North America.

In their general appearance they somewhat resemble the water rat, but in size are nearly equal to a small rabbit. The tail is shorter than the body, flattened towards the end, scaly, and brown. The ears are short, rounded, and hairy. The fur is soft, glossy, and of a reddish-brown colour.

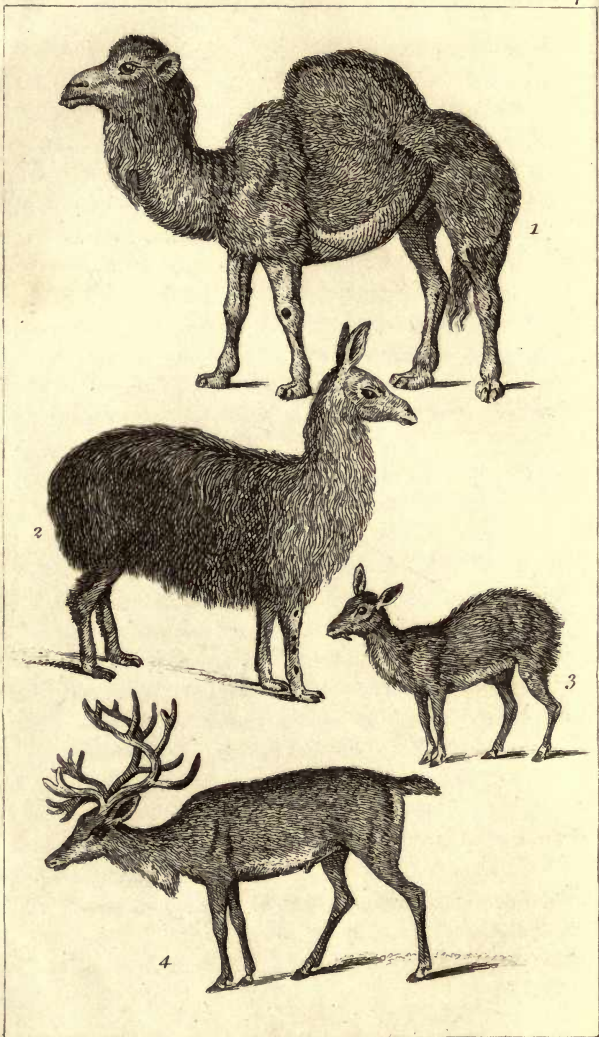
House Rat. The ravages which are committed in this and almost all the other countries of Europe by these pernicious animals, are almost incalculable. In corn-ricks and barns, as well as in dwelling-houses, they are equally injurious. They destroy corn, provisions, clothes, and even poultry, pigeons, and game—nothing comes amiss to them. Their produce is enormous; namely, from ten to twenty young ones at a litter, and this as often as thrice in the year. And had not Providence so directed, that their natural foes should be extremely numerous, it would scarcely be possible for any human effort to prevent them from so far increasing as to be detrimental, in the highest degree, to mankind.

This animal is so well known, as to need no description.

Water Rat. In most of its habits, the Water Rat has a great resemblance to the otter. It usually forms its burrow in the earth, and on some spot immediately adjacent to a river, ditch, or pond. Its food consists of small fish, frogs, tadpoles, and aquatic plants. Even potatoes have been found stored up in its hole. The feet are not webbed, yet the animal is both able to swim and dive with great ease. The females usually litter in the month of April, and produce six or eight young ones at a birth. These rats are devoured by the pike and other voracious fish.

The Water Rat is easily distinguished from either of the other two English kinds of rats, by its short head and neck, and its hairy instead of naked and scaly tail.





Arabian Camel 1. Lama 2. Tibetan Musk 3. Reindeer 4.

Common Mouse. Timid and feeble, but, at the same time, mischievous and troublesome, these little creatures are found, almost exclusively, in dwellings, barns, and out-houses, and seldom in the fields. Their nests are formed in holes of walls, or behind wainscots; and the number of young ones which they produce is from six to ten at a litter, and this several times in the year. In their habits they are extremely playful and frolicsome. Their enemies are numerous.—If kept in a cage they are seldom known to become familiar.

Field Mouse. To the gardener, as well as to the farmer, these animals sometimes prove very injurious, by devouring the seeds, particularly peas and beans, in great quantity, almost as soon as they are sown. They reside in holes in the ground, and generally amongst brushwood and in hedge-bottoms. Here they are sometimes known to collect together as many peas, nuts, and acorns, on all of which they feed, as would fill a bushel. So numerous are they in some places, that M. de Buffon knew of more than 2000 having been caught in a piece of ground containing not more than about forty acres, in the course of twenty-three days. Their rapidity of increase may easily be conceived, when it is stated, that twenty young ones have been found in one nest.

There are three distinct kinds of Field Mice in this country, but the one above mentioned is distinguished from the other two by its tail being generally from three to four inches in length. The length of the body is from three inches and a half to four and a half; and the colour of the upper parts is brownish, and of the lower parts white.

Lemming. In the mountains of Norway and Lapland these creatures are innumerable. Descending from the mountains in myriads to the plains, like a raging pestilence they destroy all the productions of the ground. In wet seasons they are so abundant, that the Laplanders believe them to drop from the clouds. Previously to the setting in of severe weather they leave the colder regions, and migrate southward in immense multitudes, towards Sweden. Their migrations are singular and alarming. The animals move onward, in a direct line : nothing can stop their progress. They swim over the rivers or lakes, and although thousands are drowned or otherwise destroyed, the rest pursue their course. Every kind of vegetable is consumed as they proceed. These emigrations take place at uncertain intervals, but generally about once in every ten years ; and so great are the obstacles which oppose their progress, and so numerous their enemies, that few of the animals live to return to their native mountains. Sometimes they divide into two parties, attack, fight with, and destroy each other. They are exceedingly bold and ferocious ; and, when enraged, they raise themselves on their hind feet, and bark like so many little dogs.

In size they are not more than twice as large as the common mouse. Their head is pointed, and mouth small. The ears are short, naked, and almost hidden in the fur. The upper parts of the body are tawny, variegated, in general, with black ; and the lower parts are whitish.

Hamster. The ravages which are committed by these animals, in several of the cultivated parts of Germany, Poland, and Russia, though not so destructive as those of the lemming, are occasionally very injurious. Fur-

nished with a capacious pouch in the inside of each cheek, they collect together, and carry off to their hoards vast quantities of grain. These pouches are so capacious, that as many beans have been taken out of the mouth of one Hamster, as, when placed in a heap, were nearly thrice the size of the animal's body. Hamsters live under the surface of the ground, and have several distinct cavities to each burrow ; as many, it is said, as there are individuals of the family. They are torpid during the winter ; and their store of provisions is a wise contrivance of the Creator, for their nourishment, previously to, and after the conclusion of their long winter's sleep. Many of the German peasants are known to derive a great part of their subsistence from finding out and plundering these granaries. The Hamster is a very irritable animal. He unsparingly attacks any creature which, in the slightest degree, seeks to annoy him ; and, ignorant of the art of saving himself by flight, he will even suffer himself to be beaten in pieces with a stick, rather than yield. Hamsters oftentimes attack each other, and it is stated that the victor always devours his opponent.

The size of the Hamster is nearly that of our common rat ; but his general form is much thicker, and the tail is not more than three inches long. The ears are large and rounded. When the cheek-pouches are filled, they appear, on each side of the head, like tumid bladders : when empty, they are not at all visible externally. The colour of the body is reddish-brown above, and black beneath. The sides are reddish, and marked with three white spots.

27. MARMOT TRIBE.

The Marmots live underground, and are torpid in the winter. They feed on grain and roots.

Alpine Marmot. Associating together in small communities of from five to fourteen, these animals reside in burrows under the surface of the ground. Each of these burrows has two outlets, and one large apartment, lined with mosses and grass, in which the animals have their lodgment. Their food is various; consisting of insects, roots, and vegetables of different kinds. They delight in basking in the sun. Their motions on the ground are so slow, that they are easily to be caught; but, except during the winter, when they are torpid, it is by no means easy to dig them out of the ground, as their facility of digging is generally much greater than that of their pursuers. They are caught in great numbers, partly on account of their flesh, which is said to be a delicate and palatable food; and partly for their skins, which make a valuable fur. The Savoyards catch them when young, and train them for the purpose of exhibition. They are taught to dance, wield a stick, and obey the commands of their master, in performing a variety of other tricks. In general, they are to be considered as harmless and inoffensive animals. They produce their young ones, usually three or four in number, about midsummer.

The body of the Alpine Marmot, which is about sixteen inches in length, is thick; and the head is short and blunt. The ears are short, round, hairy, and almost hidden in the fur. The legs are short: and the tail is short and bushy. The upper parts of the body are dusky brown, and the lower parts reddish.

28. SQUIRREL TRIBE.

It is impossible for any quadrupeds to be much more light and agile in their motions, than some of the species of Squirrels. They live in holes of decayed trees. None of them eat animal food.

Common Squirrel. The sprightliness and activity of this beautiful little animal are singularly graceful and interesting. With the utmost security it runs up the stems, and leaps and wantons about amongst the branches of trees, and will even spring from one tree to another, and thus pass over a considerable space of forest without once coming to the ground. The nest of the squirrel is formed betwixt the forked branches of trees; it is covered on all sides, and has a small opening near the top, to admit of the animals passing backward and forward. This nest is formed of moss, dry leaves, and sticks, interwoven very compactly together, and rendered soft and commodious within. Squirrels feed on fruit, nuts, and acorns; and of the latter, they lay up a store sufficient for their winter's support. They are easily rendered tame; but are of a nature so chilly, that they eagerly creep into any place where they can have warmth. And though, in general, sufficiently mild and gentle, they have frequently been known, when irritated, to bite with great severity.

The ears of the Squirrel end in long tufts of hair. Its tail, which is generally carried over the back, is broad and bushy, the hairs extending towards each side. The colour, both of the upper parts of the body and the tail, is reddish brown; and that of the neck, breast, and belly, white.

Flying Squirrel. By means of a broad, hairy membrane or skin, which extends from the fore to the hind legs on each side of the body, these animals are able to leap to amazing distances, twenty yards and upwards, from one tree to another. This extended skin acts upon the air somewhat in the manner of a paper kite, and even if they happen to miss their hold, which is seldom, indeed, the case, enables them to fall upon the ground without the slightest injury. They are generally seen in flocks of ten or twelve together. In nearly all their habits of forming their nests, and feeding and producing their offspring, they resemble the common species. They are found wild in the forests of Siberia, Lapland, Livonia, and Poland.

They do not exceed the common squirrel in size. The upper parts of their body are of a fine leaden grey colour, and the lower parts white. The tail is full of hair, and rounded at the extremity.

29. DORMOUSE TRIBE.

In their general appearance and habits of life, these little creatures might easily be mistaken for mice. They leave their holes only during the night. They subsist entirely on vegetable food; and become torpid in the winter.

Common Dormouse. From the circumstance of these being chiefly nocturnal animals, and also continuing in a torpid state through the whole winter, they are known to the common people, in many parts of England, by the name of *Sleepers*. They live in close hedge-rows, woods, and thickets, forming their nests of moss, leaves, and grass, in the hollow of a low tree, or near the bottom of some thick bush. This nest is about six inches in

diameter, and has a small hole near the top. The female produces her litter, of four or five young ones, generally about the month of May or June. Dormice have many of the habits, but want much of the sprightliness, of the squirrel. They lay up, in preparation for the winter, a magazine of nuts or acorns; and when occasionally revived from their sleep by the unusual warmth of the weather, they take a little food, and then relapse into their former state. These animals are frequently tamed and kept in cages.

They are about the size, and have much the shape of a mouse, but are more bulky. Their tail is hairy, round, and thickest towards the extremity. Their general colour is a tawny red, but their throat is white. The eyes are full and black; and the inner toes of the hind feet are without claws.

30. JERBOA TRIBE.

The Jerboas live entirely on vegetable food. They are inhabitants, principally, of the warmer climates. They burrow into the ground, sleep during the day, and are active only in the night.

Siberian Jerboa. The structure of these animals is very singular. Their hind legs are so long, and the fore legs so short, that they almost always walk upright; and, when alarmed by the approach of danger, they immediately take to flight, in leaps six or seven feet high, and so swiftly repeated, that a man mounted on a good horse would scarcely be able to overtake them. They are chiefly found in those parts of Siberia, Egypt, and Arabia, where the ground is hard and clayey. In this they dig their holes or burrows, several yards in length,

with, at the extremity, a capacious receptacle for their food, which consists of roots and various kinds of plants. They are seldom known to come abroad until the evening, and they do not usually retire to their hiding-places until nearly sun-rise in the morning.

The length of their body is about eight inches, and of the tail nearly ten. They have four toes on each of the feet, and a claw in place of the thumb, on each fore foot. They are of a pale yellowish fawn-colour on the upper parts, and white beneath.

31. HARE TRIBE.

Several of the species of Hares collect into flocks, consisting sometimes of as many as five or six hundred. They are all remarkable for timidity.

Common Hare. This weak and defenceless animal has not only innumerable enemies amongst almost all the larger tribes of predatory animals, but is an object of eager pursuit even to mankind, and that chiefly for amusement. In the spring of the year, Hares are generally found on fallows, or amongst green corn; during the autumn they frequent stubbles and turnip-fields; and, in winter, are found among brambles and thickets. Their favourite food is green corn, parsley, pinks, or birch; and in young plantations they sometimes prove very injurious, by peeling the bark of trees, and gnawing off the tops of young firs and shrubs. The ears of these animals are admirably contrived, by their size and shape, to convey the most remote sounds. When pursued they always throw them back, so as to receive the sounds which come from behind, and thus enable them to judge of the distance and power of their foes. Their fleetness of foot is well known: without reckoning the

numerous doublings of the course, a hare has been known to run upwards of four miles in twelve minutes. Hares, when tamed, have been taught to perform many amusing tricks ; and the account which Mr. Cowper has given of his tame Hares, will not easily be forgotten by any person who has read it. They are solitary animals ; and produce two, sometimes three, and rarely four young ones at a litter. The fur of the Hare is employed in the manufacture of hats ; and vast numbers of their skins are annually imported from Russia and Siberia into England. The flesh, though with us much esteemed as food, was anciently forbidden by the Druids and Britons, and is at this day prohibited by the Jews and Mahometans.

Rabbit. In some parts of England, where the soil is sandy and incapable of deriving much benefit from cultivation, these animals afford, perhaps, greater advantages to the proprietor, than any other mode in which the land can be employed. Rabbit-warrens are frequently rendered very lucrative. The English counties most celebrated for them are, Lincolnshire, Norfolk, and Cambridgeshire. The fur of the Rabbit is a valuable material in the manufacture of hats, and their bodies are in great request for the table. They usually form their burrows on the slope of some gentle ascent, in a zigzag shape, enlarging them at the bottom, and forming there a comfortable nest. In these the female produces her young ones, generally seven or eight in number, and this several times in the year. Their fecundity is such, that if no obstacles of any kind intervened, it is supposed to be possible for the progeny of a single pair, to amount to more than a *million* in the course of four

years. Their enemies of all kinds, however, are numerous. They are devoured by stoats, polecats, hawks, and numerous other voracious animals, as well as by mankind. Rabbits are frequently bred up tame. They should at all times be kept perfectly clean, and free from filth. The best food for them is the shortest and sweetest hay that can be procured; they are also fond of clover, and other green vegetables. Although these animals are found wild in nearly all the southern parts of Europe, they were not originally natives of Great Britain, but are supposed to have been originally imported into this country from Spain.

ORDER V. PECORA.

32. CAMEL TRIBE.

Nearly all the animals of this tribe are useful to mankind in hot climates, as beasts of burden, and are able to sustain the fatigue of even the longest journeys, with a very small portion of food. Two of the species are found on the old continent, and the remainder are inhabitants of South America.

Arabian and Bactrian Camel. The former of these animals is distinguished by having a single bunch, and the latter by having two bunches on its back. Without the aid of Camels, the inhabitants of the sandy desert and burning countries of various parts of the east, would scarcely be able to exist. For the carrying of heavy burdens, the horse could be of little avail to them, as the climate and country, added to the long and fatiguing journeys which they frequently perform, would soon

destroy them. The tough and spongy feet of the Camel never crack, and this patient and invaluable beast is able to travel through countries entirely destitute of water, for seven or eight days successively, without requiring any liquid for its support; and a single feed of beans in the day is a sufficient supply of food for its journey. All the articles of traffic of many countries are conveyed from one place to another solely by means of Camels. In these commercial journeys, which are frequently to the distance of several hundred miles, great numbers of merchants and other travellers unite, for the purpose of affording assistance to each other, and in order to prevent the insults and robberies of the Arabs. They travel at the rate of about thirty miles a day; and at night all the Camels are unloaded, and suffered to take their rest. The burden that each animal carries is usually from eight hundred to a thousand pounds weight. They kneel down in order to be loaded, and when this is finished, at the command of their conductor they rise. The animals above particularly spoken of are the Arabian Camels, which are natives chiefly of the deserts of Asia and Africa. The Bactrian, or two-hunched species, are common in several parts of Persia, Siberia, and Tartary, where they are employed as beasts of burden. The flesh of the Camel, though dry and hard, is much esteemed in the east. The hair is used in the manufacture of a kind of cloth; and the skins make an excellent leather.

Lama. These are the Camels of South America; and in the mountainous parts of Peru and Chili, it would almost be impossible to transport heavy goods from one place to another, without their assistance. Almost all the valuable ores are transported on their backs. And

we are told that more than three hundred thousand of them have, in former times, been employed in carrying the riches of the mines of Potosi. The weight they usually carry is from a hundred to a hundred and fifty pounds each. In a wild state they are so active and fearless, that they ascend the steep and nearly perpendicular faces of rocks, along which no man would dare to follow them. When irritated or offended, they have a singular mode of spitting at the object of their anger; and it has been said, though apparently without any foundation, that this saliva is so corrosive, that it will produce blisters upon the skin. The flesh of these animals is considered to be as good as our best mutton.

In height they measure about four feet and a half, at the shoulder. The back is without any hunch, but there is a protuberance on the breast. The head is small, the eyes are black, and the neck is very long and slender. The colour of the hair varies: in some individuals it is white, and in others brownish, grey, or spotted.

33. MUSK TRIBE.

Like the camels, these animals are destitute of horns. In disposition they are gentle, and at the same time fearful and timid. Two or three of the species are scarcely larger in size than a rabbit. They are found only in the warmer parts of Asia.

Thibetian Musk. Possessing nearly all the agility of the antelope, the Musks inhabit only the most mountainous and rocky parts of the interior of India, China, and Thibet; grazing in flocks in the narrow valleys, and upon the stunted vegetation of the most elevated regions. They are so timid, that they seldom approach the abodes of mankind; and are not to be tamed, even when caught

young, without great difficulty. They are pursued and killed on account, chiefly, of the well-known drug called *musk*, which is produced in a kind of bag, about the shape and size of a small egg, situated on the under part of their body. These bags are peculiar to the male, and each of them yields about a dram and half of musk, which has the appearance of a brown and fatty substance. The hunters cut off the bags, and tie them up for sale. When a musk-bag is first opened, the odour is said to be so powerful, that every person present is obliged to cover his nose and mouth with several folds of linen; and, notwithstanding all the care that can be taken, the blood will sometimes gush out of the nose in consequence. So numerous are these animals in their native climates, that Tavernier informs us, that in one journey he collected more than seven thousand bags.

The length of the male is about three feet. These animals have no horns. The head is beautifully shaped; the upper jaw considerably longer than the lower, and furnished on each side with a long and curved tusk. The hair is soft, and varies in colour, according to age and season: on the upper parts of the body it is chiefly of a blackish brown colour, and on the under parts hoary. In the young animals it is oftentimes spotted.

34. DEER TRIBE.

The greater part of these animals are found in wooded and mountainous districts; and are natives both of hot and cold climates. They shed their horns every year. Their flesh is in great request as food, and has the general name of venison.

The Elk, or Moose Deer. An inhabitant only of the frozen and snowy regions, this immense animal, which exceeds even the horse in stature, usually moves with an awkward and inelegant gait. His speed is not so great as the extreme length of his legs might lead one to suppose; and in winter-time, when the ground is covered with snow, a man in snow-shoes is able to run him down. During the summer, however, from the quickness of his sense of hearing, and the greater swiftness with which he is then able to move, it is by no means an easy matter for any person to approach him. These animals are pursued and killed chiefly on account of their flesh and skins; the former being used for food, and the latter, which is so thick as to be capable of resisting a musket-ball, being manufactured into a strong and very excellent kind of buff leather. Their tongues, also, are much esteemed; and their nose is said to eat like marrow. No animals of the Deer tribe are more easily tamed than the Elk; and several successful attempts have been made to introduce it into agricultural labours. Elks are found in the north of Europe, America, and Asia. Some years ago, a male and female were turned out in Blenheim Park, near Woodstock. During the winter, they did not appear at all to suffer from their change of climate; but they fell a sacrifice to the heat of the ensuing summer.

The legs of the Elk are peculiarly long and slender. The horns, which are found only on the males, are extremely large and broad, and have either very short brow-antlers, or none. The neck is short, and on the throat there is a tufted excrescence. The head and ears are both long. The upper lip is very broad, deeply furrowed, and hangs much over the mouth. The nostrils are peculiarly large and wide. The general colour of the male is a greyish kind of black, and that of the female

a sandy brown ; but the under parts in both sexes are whitish.

Rein-Deer. Of the Rein-Deer it has been remarked, that to the inhabitants of Lapland it supplies, amongst various other uses, the place of the horse, in conveying them over extensive tracts of country ; of the cow in yielding them milk ; and of the sheep in furnishing them with clothes. A Rein-Deer, yoked to a sledge, is able to move with almost the rapidity of the wind over frozen snow ; and, in general, is to be guided and directed without difficulty. The more wealthy of the Laplanders have numerous herds of these animals, sometimes amounting to several hundreds. In the summer-time they feed on grass and other plants ; but during winter, on a kind of moss, which grows upon the ground, called Rein-Deer liverwort, and for which the animals are obliged to dig through the snow, by means of their feet and horns. But when the snows are too deep to admit of this, they subsist on another kind of moss, or liverwort, which grows upon the branches of trees. They are collected together every morning and evening, for the purpose of being milked. Rein-Deer begin to breed at the age of two years, and generally produce two young ones at a birth. These, when about four years old, are trained to labour, and continue serviceable for four or five years. It has been attempted to introduce Rein-Deer into parks in England ; but although they have bred, and continued for a while to do well, none of the attempts have hitherto proved successful. Rein-Deer are found wild in the mountainous parts of the north of Europe, Asia, and America.

The height of these animals is about four feet and a half. The horns are long, slender, and branched, and

have brow-antlers, with broad and widely-spreading tips, directed forward. The hair on the upper parts of the body is generally of a brownish-ash colour, and in the older animals nearly grey. The space about the eyes is black; and that round the mouth, as well as all the under parts of the body, is white. The tail is white. The hair upon the neck is peculiarly long.

Stag, or Red Deer. There are, at this day, very few parts of England in which these noble and majestic animals are found in a state of nature; but in the mountainous districts both of Ireland and Scotland, they are occasionally observed in herds of considerable numbers. When unprovoked, they are of a mild and peaceful disposition, frequenting the wildest parts of the mountains and forests, where they browse on grass, or the leaves or buds of trees. During the breeding season, which is in the months of May and June, the females separate; and they do not again collect into herds until towards the close of autumn. Each female seldom produces more than a single young one. This she conceals, for some time, in the most obscure thickets, until it has sufficient strength to allow of her leading it abroad. Red Deer are supposed to live to the age of about forty years. Their sight and hearing are both extremely quick. The males only have horns, which they shed every year; and, whilst the new horns are budding, they frequent the most retired places, and feed only during the night, to prevent the soft skin being irritated by the flies, which otherwise would alight upon and tease them. Red Deer are found in all the four quarters of the globe. Their flesh is eaten, but is by no means so delicate as that of the fallow deer. Their skins are manufactured into leather for breeches, gloves, belts, and

other purposes : their horns are used for the handles of knives, and from them is made the well-known volatile salt, called *hartshorn*.

The height of the Red Deer is betwixt three and four feet. The horns are much branched ; and are not, in any part, flat, but rounded through their whole length. The upper parts of the body are of a reddish-brown colour, and the under parts whitish.—Of these animals, the male is called Stag or Hart ; the female Hind ; and the young one Fawn.

Fallow Deer. The ornamental inhabitant of almost all the large parks and noble domains in the kingdom, the Fallow Deer associate together, usually in immense herds. They feed on almost every species of vegetable, and are sometimes extremely detrimental to young timber, by gnawing the bark, in such manner as to prevent its further growth. The Does, about the month of June, produce one, two, and occasionally three young ones, in some retired place, among fern, or other cover. The duration of life of these animals is generally considered to be about twenty years. The flesh of the Fallow Deer is well known to all epicures, for its peculiarly excellent flavour. That of the buck, or male, is reckoned in best season from the beginning of July until about the middle of September ; and that of the doe, or female, from about the middle of November to the middle of February.

In size these animals are considerably less than the red deer. The horns are flatted, in some parts to the breadth of several inches. An antler rises from the base of each horn, and another at some distance above. In most other respects they have a great resemblance to the red deer. Their colour is generally brownish-bay,

whitish beneath, on the inside of the legs, and beneath the tail. The latter is usually bounded on each side by a descending streak of black.

Roe. In the mountains, and amongst the Alpine valleys of the most wild and unfrequented parts of Scotland, Norway, Finland, and Siberia, these beautiful and sprightly little animals are found in small herds, seldom, indeed, consisting of more than the two parents and their offspring, or from three to five individuals. Their timidity is such, that they seldom approach the habitations of men. In the choice of their food they are also peculiarly delicate. During the summer-time they feed on grass, wild thyme, and other vegetables; and in winter, when the ground is covered with snow, they browse the tender branches of the fir and birch trees. The number of young ones which they produce is generally two; and a short time previously to the appearance of these, the female drives off her former offspring, to provide habitations and form societies for themselves. The venison of the Roe is considered to be peculiarly delicate; and its hair and horns are also very valuable.

The height of this animal is not more than thirty inches. Its horns are six or eight inches long, upright, rounded, and divided at the extremity into three branches. On the outside of each hind leg there is a tuft of long hair. The tail is about an inch in length. The ears are long. The hair is of a reddish-brown colour. The face is dark, and the spaces bordering on the eyes and mouth are black. The under parts of the body are whitish; and the rump is perfectly white.

35. GIRAFFE TRIBE.

Of the present tribe only one species has hitherto been discovered.

Camelopard or *Giraffe*. When it stands erect, this most remarkable of all animals frequently measures from five to six yards in height, from the top of its head to the ground. The hinder parts, however, are not by any means so high. It is found only in the plains of Ethiopia, and some of the interior and southern parts of Africa. In its general manners and disposition it is one of the mildest and most innocent of all quadrupeds. When these animals graze, it is necessary for them to separate the fore legs to a considerable distance, otherwise their head would not be able to reach the ground. They, however, most usually feed on the leaves of trees and shrubs. It is but seldom they have been seen, particularly of late years; and, when pursued, they move so rapidly, that even the fleetest horse would scarcely be able to overtake them. In their general appearance they remind an observer of the camel, the horse, and the deer; partaking, in some respects, of the nature of each of these animals. By the ancients they had the name of *Camelopard*, from a supposed resemblance both to the camel and leopard. We are told that Pompey exhibited no fewer than ten of them at once, in the amphitheatre at Rome. There is, at this time, the stuffed skin of a *Camelopard* in Mr. Bullock's Musuem, in Piccadilly, London.

In its general form and appearance, this is an elegant, though very singular quadruped. Its head is somewhat like that of a horse, but furnished with two erect horns, each about six inches in length, blunt at the extremity,

and tufted with coarse, black hairs. The neck is peculiarly long, and has, at the back, a short, upright mane. The shoulders are very deep. The tail is tufted at the end. The colour is a dirty or reddish white, marked with numerous large rusty spots.

36. ANTELOPE TRIBE.

Light and agile beyond, perhaps, all other quadrupeds, the Antelopes delight chiefly on rocky and mountainous countries. Their horns are hollow, turned upwards, and have spiral or annulated knobs.

Chamois. The skins of these animals form a well-known kind of soft leather; and it is on account of this, and of their flesh, which is in great request as food, that they are pursued with great eagerness by the inhabitants of Savoy, Switzerland, Italy, and other countries in which they are found. They inhabit the lofty summits and valleys of the Alps and Pyrennees, collected together in flocks of from four to about eighty in number. These, when they feed, are said to place a sentinel, for the purpose of giving notice of danger: on the least noise he utters a shrill whistle, and the whole flock scampers off to the rocks and precipices, with the utmost rapidity. Amongst these they leap and run about with a fearlessness and agility which is truly surprising. They are able to spring across rocks, even to the depth of twenty or thirty feet, without the slightest injury. Their senses of sight, hearing, and smell, are all singularly acute. Their young ones, usually two or three in number, are produced in the month of April or May.

The Chamois is about the size of a goat, but its limbs are, in proportion, much longer, and its fur is by no means

so shaggy. The horns are black, slender, upright, about eight inches in height, and hooked backward at the tip. The colour of the body is a dusky yellowish-brown; and the cheeks, chin, throat, and belly, are yellowish-white.

Nyl-ghau. The mode in which these animals combat each other is not a little singular: they drop on their fore knees, and advancing in this posture, they spring up when within a few yards, and furiously dart upon each other. In their general habits they are sufficiently harmless and gentle, and will even permit themselves to be handled by their keepers, without in the least attempting to resent the familiarity. In the states of the Mogul, these animals are kept in open grounds, in the same manner as deer are kept in our parks, and that chiefly for the purpose of being hunted. Their flesh is held in great esteem. In a wild state, they are found in the interior and most retired parts of India. Several individuals have, at different times, been brought into England. They bear the climate sufficiently well, and have even produced young ones in this country.

The Nyl-ghau, which is a peculiarly elegant animal, generally measures about four feet in height at the shoulder. Its horns are short, and bend somewhat forward. On the neck, and about half way along the back, it has a short, black mane; and on the fore part of the throat there is a long tuft of black hairs. The colour of the male is a dark grey, and of the female, pale brown. There are white spots, or marks, on the neck, the chest, and each of the feet. The tail is long, and tufted at the end.

Pigmy Antelope. At the same time that it is the smallest, this Antelope is indisputably the most elegant of all the cloven-footed quadrupeds. Its height is seldom more than from nine to twelve inches, and its legs are scarcely thicker than the stem of a tobacco-pipe. Its fleetness is indescribable; and its agility such, that, astonishing as the fact may seem, it is able to spring over obstacles which are more than twelve times its own height. These animals are very numerous in some parts of Guinea. They are easily tamed, and, in this state, soon become entertaining and familiar; but their delicacy of habit is such, that all the attempts which have hitherto been made to bring them alive into, and keep them in Europe, have failed.

They are of a reddish-brown colour, and have jet-black horns, which are conically pointed, twisted, wrinkled at the bases, and about two inches long.

37. GOAT TRIBE.

In their general habits, as wild animals, the Goats very nearly resemble the antelopes. They live chiefly in retired and mountainous situations; and have a rank and unpleasant smell.

Common Goat. In various parts of the continent the Goat is an invaluable domestic, particularly in rocky and mountainous situations, which would not afford nutriment for oxen and cows. To the inhabitants of such countries their milk affords cheese, and their flesh an almost indispensable food. Few animals are so hardy, and, on the whole, require so little attention and care. Their constitution is equally uninjured by the frozen climates of the north, and the arid regions of the torrid zone. They spring about amongst the rocks with

wonderful agility; and scarcely any fence is formed sufficiently high to restrain their wandering. In gardens and cultivated grounds they oftentimes do much damage, by gnawing and eating the plants and the leaves of shrubs. To young trees they are peculiarly injurious, by not only nipping off the buds, but also by peeling the tender rind, which they eat with great avidity.— Besides the flesh and milk of these animals yielding food to man, their skins, when properly prepared, are manufactured into gloves and other articles of dress; and from these is also made what is generally called *Morocco Leather*. A peculiarly fine down is found at the roots of the long hair, which is capable of being manufactured into articles of dress which are more soft and beautiful than even the finest of the Indian shawls. The long hair is employed by the peruke-makers, in the making of wigs. The horns are formed into the handles of knives; and of the fat candles may be made, which, in many respects, are superior to those made from the fat of oxen or sheep.

Ibex. No animals of their size can be more powerful and active than the Ibex. They are found throughout all the mountainous parts of the continent of Europe, inhabiting, in flocks of from ten to fifteen in number, the most precipitous and inaccessible places. They descend into the woods and plains to feed during the night; and they retire into their native rocks at the earliest commencement of day. Here generally, on the sides most exposed to the sun, they continue until the approach of night again induces them to depart in search of food. The pursuit of the Ibex is attended with much hazard, and the greatest difficulties. The hunters have frequently been destroyed by tumbling down the preci-

pices ; and in many instances have been killed by the enraged animals furiously turning upon them, and goring them with their horns. The mode in which the Ibex is said sometimes to avoid the hunter, is by throwing itself down the precipices, alighting on its horns, and thus escaping unhurt.

The male Ibex is somewhat larger than the goat. Its horns are large, and from two to four feet in length. They are rounded on the under, and rugged on the upper surface, or divided by several transverse ridges. They are considerably more arched backward, those of the goat. The horns of the female are not more than eight inches long. The head is small, the beard long, and the eyes are large and brilliant. The limbs are slender, and the body stout. The hair of the upper parts of the body is long, and of a brownish colour, with a streak of black running along the back. The colour of the female is somewhat lighter than that of the male.

38. SHEEP TRIBE.

These are timid and harmless creatures. They afford essential services to mankind ; their flesh serving us as food, and their wool being manufactured into clothing.

Common Sheep. In wild and mountainous tracts of country, where sheep are suffered to range almost without control, they exhibit many interesting traits of character. They are at all times watchful to provide against dangers, and they unite in defending themselves from attack. They do not always graze together in large flocks, but generally associate in parties of from eight to a dozen, of which one is stationed at a little distance from the rest, as a sentinel. If approached by a dog or fox, the rams face about, and exhibit so formidable a

front, that the opponent generally runs off in alarm. It may appear singular to persons who have not attended much to these animals, to be told, that so varied is the expression of their countenances, that the mountain-shepherds are able to distinguish each of their sheep, though five or six hundred in number, by its face. The uses of the sheep are well known. We derive from them by far the most important part both of our clothing and food. From their fleece are woven our coats: from the skin, leather is manufactured for the covers of books and numerous other purposes; their entrails are made into strings for musical instruments; and their milk, in several countries, is made both into butter and cheese.

The varieties of the Common Sheep are extremely numerous. Some of them are entirely destitute of horns, and others, as the Iceland sheep, have three, four, five, and even six horns each: some are clothed with hair, instead of wool: some, as the broad-tailed sheep of Syria and Barbary, have this part of their body so long and large, as even to trail on the ground, and require a piece of board, with wheels, to keep it from galling; and others, the fat-rumped sheep of Tartary, have two large, naked prominences on the rump, and no tail. There are about fourteen distinct varieties of sheep in the British Islands, of which six are horned, and eight polled.

Argali, or Mouflon. In the alpine regions of the interior of Asia, in Kamtschatka, and the Kurili islands, the Argali are found in considerable numbers. So great are their agility and watchfulness, that it is not an easy matter to approach them, and the hunters find it necessary to use every caution to come within gun-shot of

them. They usually collect together in small flocks, on the sunny sides of the hills. The females generally produce one or two lambs each, about the month of March. The flesh of these animals is much esteemed throughout all the region in which they are found.

They are larger than the common sheep. Their horns also are large, arched semicircularly backwards, and spreading at their tip, wrinkled on their upper surface, and flatted beneath. On the neck there are two hairy and pendant dewlaps.

39. OX TRIBE.

These animals are inhabitants of swamps and plains, in different parts of the world; and are found in various climates, both hot and cold. In their general form they are large and heavy. Several of the species are used as beasts of draught and burden.

Common Bull, and Cow. Next to the sheep these are to be considered the most useful of all animals to mankind. Their flesh and milk afford us food of the most valuable kind: the skins are formed into leather for shoes, harness, saddles, and various other purposes: the horns are manufactured into combs, and handles for knives: the fat is made into candles: and the blood is employed in the clarifying or refining of sugar.—Deprived of the aid of these valuable beasts, says the Compté de Buffon, the poor and the rich would alike have great difficulty to subsist. The earth, (in France,) would remain uncultivated; the fields, and even the gardens, would be dry and sterile. It is on the ox that all the work of the country falls. He is the most useful domestic which the farmer possesses; and he performs all the labour of agriculture. In former ages he constituted

the only riches of mankind ; and still he is the basis of the riches of those nations, which only flourish and are supported by the cultivation of their lands, and the number of their cattle. In a wild state, the ox is found in the marshy forests and vales of Poland and Lithuania. In this state it has the name of *Bison*, and is a ferocious and savage beast. Its horns are bent forward ; it has a large hunch or swelling upon its shoulders, and a long mane upon its neck. In Chillingham Park, belonging to Lord Tankerville, near Berwick ; Wollerton, in Nottinghamshire, the seat of Lord Middleton ; and at Chartley, in Staffordshire, there are kept, at this day, breeds of these animals, which are nearly wild. Oxen attain maturity at the age of about eighteen months, and continue in vigour until they are nine or ten years old. The duration of their lives seldom exceeds the term of fourteen or fifteen years.

The varieties of the ox, though numerous, are not so much so as those of the sheep. In Great Britain, there are about ten distinct kinds of cattle, three of which are destitute of horns.

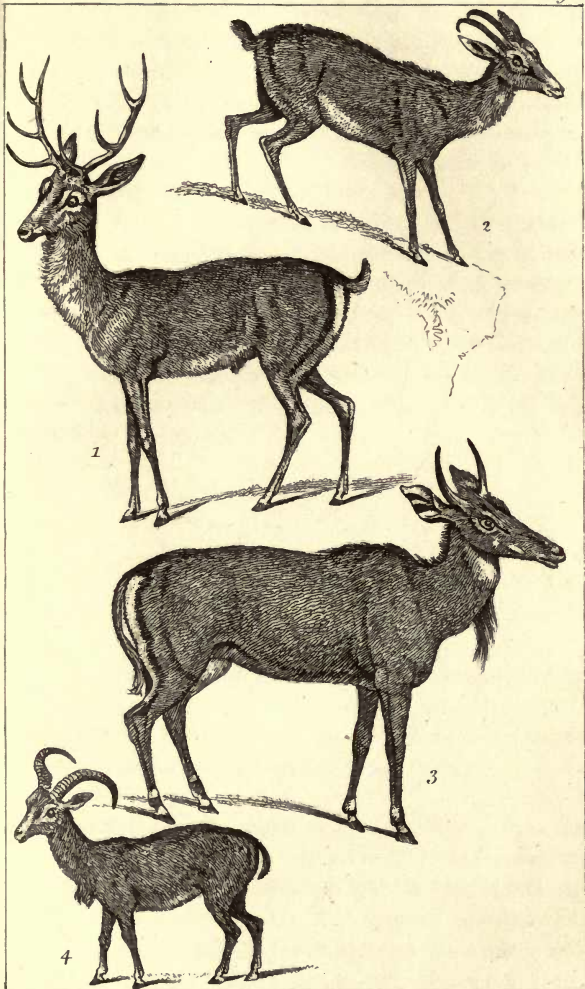
The *Surat Ox* is peculiar for its extremely diminutive size. It is not larger than a great dog, and is frequently employed in Surat, for drawing children about in small carts.

Buffalo. In several parts of India, Africa, and Italy, Buffalos are domesticated like our ox, and trained to labour. They are very tractable in this state, and, from their enormous powers of body, prove highly useful both for draught and carriage. The mode in which they are guided, is by a ring, passed through the nose.

They were originally introduced into Italy from the opposite continent of Africa, by the Lombards, about thirteen hundred years ago, and, in many parts of that country, they now constitute an essential part both of the riches and food of the poor. Of the skin of the Buffalo, which is peculiarly strong and thick, is made a most durable kind of leather, called *buff*. Their flesh resembles our beef; and butter and cheese are made from their milk. The horns, as being of finer texture, and bearing a better polish than those of the ox, are in great request for every purpose to which horn is applied.

The Buffalo is considerably larger than the ox, though in their general form there is a near resemblance. The chief difference consists in the horns, which, in the Buffalo, are large and flat, extended first outwards, then upward, and finally bent inwards at the end. The general colour of the animal is blackish, except the forehead and tip of the tail, which are of a dusky white.

Cape Buffalo. The savage ferocity, and fierce and malignant aspect of the Cape Buffalo, are such as to inspire with terror the travellers in the neighbourhood of those savannahs and plains in the southern parts of Africa, where it is principally found. These animals associate in large herds, retiring into the woods during the day, and issuing from their retreats in the evening and night, in order to graze. It is singular that so much malignity should be found in a beast which subsists only on vegetable food; but such is undoubtedly the case. Treacherous in the extreme, they frequently conceal themselves among the woods, and rush out from thence upon the passing traveller, who has no chance of escape, but by climbing the nearest tree. Flight is of



Red Deer 1. Chamois 2. Nylghau 3. Mouflon 4.



no avail : he is speedily overtaken, and the tremendous beast, after throwing him down, tramples him to death, and afterwards tears the body to pieces with his horns and teeth. This Buffalo delights to wallow in the mire, and to cover himself with mud. The flesh is an excellent and highly flavoured beef. Of the skin, a peculiarly strong and valuable leather is made.

The size of this animal is such, that it stands nearly six feet in height at the shoulder : and its limbs are proportionally strong. Its head and neck are covered with long, coarse, and black hair. The horns, which are very broad, and closely united at the base, bend first outward, then forward ; and the points, which are taper, bend upwards and inwards. The general colour of the body is black, or cinereous.

ORDER VI. BELLUÆ.

40. HORSE TRIBE.

In their native deserts, these animals collect together in numerous troops. The species are not more than about six in number. Several of them are employed by mankind as beasts of draught and burden.

Common Horse. The beautiful shape, appearance, and noble and graceful form of the Horse, as well as his gentleness and utility to man, entitle him to our highest admiration and regard. He appears sensible of the caresses of his master, is attentive to his wishes, and, on the least signal, varies his pace ; is always ready to slacken, redouble, or accelerate it, when he is acquainted

with his rider's will. Neither the length of a journey, nor ditches, nor rivers the most rapid, can discourage him: he springs through every obstacle, like a bird whose career no impediment can check. At the same time that we bestow this encomium on the Horse, in the highest perfection of its species, the tribute of praise should not be withholden from those of inferior breeds, which, destined all their lives to bear the heavy burdens we impose upon them, exhibit a degree of patience and perseverance, which cannot be too much admired.

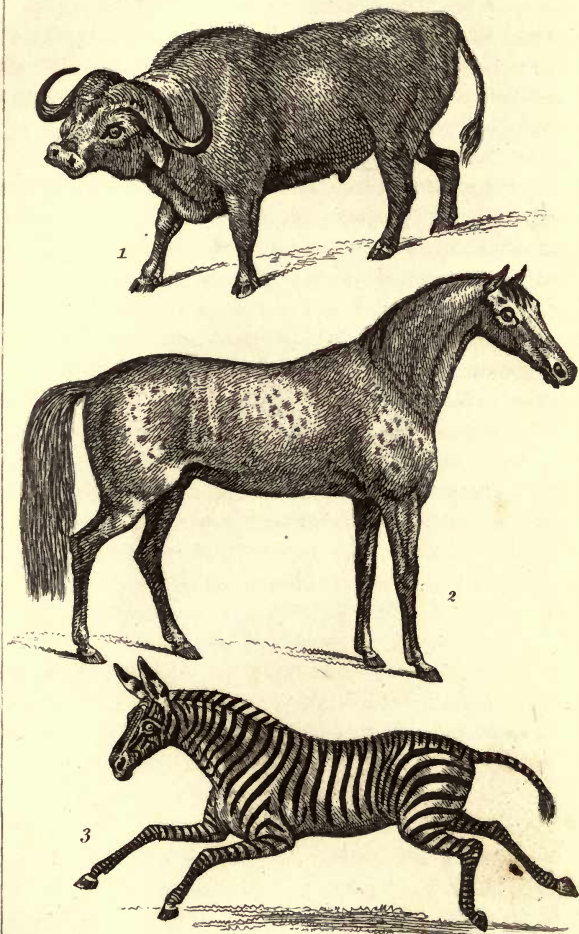
It is chiefly to the great deserts of Tartary and Siberia, that we are to look for the wild stock from which our invaluable domestic originally sprang. Here, ranging together in large troops, they exhibit very surprising traits of sagacity and vigilance. Whilst they feed, they generally station one of their party at a little distance, for the purpose of giving notice of the approach of danger. It is almost impossible to entrap them; and, when pursued, their swiftness of foot is such, that it is not without great difficulty they can be overtaken. It is to Arabia that we have been principally indebted for the excellence of our breed of Horses. In this wild and thinly-populated country, the very existence of the owner sometimes depends upon the powers of his Horse, and, consequently, the most minute and indefatigable attention is paid to the perfecting of the breed. And it is, chiefly, in consequence of this, that the race is able to sustain infinitely greater fatigue and abstinence, than the Horses of any other country. A Horse, in that country, which cannot support itself for three days, under continued bodily exertion, is accounted of little value. If Horses be well treated, and have proper care taken of them, it is said they will sometimes live to the great age of fifty years; but, during part of this time, they

are generally so decrepid, as to perform no services whatever to their owner. The flesh of the Horse is eaten in several parts of Asia. The Calmuc Tartars live almost wholly upon it. They likewise drink the milk of the mare, and make of it both butter and cheese. The hair of these animals is of use in the manufacture of numerous articles, and the skins are made into leather. In the Ottoman empire, the grand vizier is always preceded by standards formed of Horses' tails, each surmounted with a gilded ball! This became the military ensign of the Ottomans, from the following singular circumstance. One of their generals having had great difficulty in rallying his troops, who had been so unfortunate as to lose all their standards, thought, in the emergency of the occasion, of this device; to cut off the tail of one of the Horses, and erect it on the point of a spear. The soldiers flocked to it, gallantly charged their enemy, and their exertions were at last crowned with victory.

Ass. In a wild, savage state, the Ass inhabits the mountainous deserts of Great Tartary; from whence it migrates, during winter, into India and Persia. It is likewise found in the south of India, in Natolia, Syria, Arabia, and Africa. These animals feed together in immense troops; and are pursued and killed by the inhabitants of those countries, chiefly on account of their flesh, which is in great request by them as food. Being excessively fond of salt, they are usually found collected in places where there are salt-springs; and their favourite food is the saltiest and the bitterest plants of the deserts. If caught, they are easily tamed. Doomed, as this animal is, in our countries, to neglect and contempt,

it has become the slave and companion only of the poor. Thus compelled to undergo the lowest servitude, it oftentimes experiences all the misery of harsh and ill usage. Naturally patient and persevering, it is loaded with enormous burdens, or compelled to drag the heaviest weights ; and in order to urge it forward, its sides or back are goaded with a sharp-pointed iron prong. Under such treatment, we cannot be surprised that its native spirit is subdued, and that sometimes it should show itself intractable or stubborn. Persons, however, who are in the habit of seeing these animals treated with the kindness and attention they deserve, know that they are naturally mild and gentle, and that they undergo a reasonable share of labour and fatigue, with cheerfulness and alacrity. To the poor, they are much more serviceable than horses. Their constitution is so hardy, that, even in the depth of winter, the most wretched hovel is sufficient shelter for them from the cold ; and so temperate are they, with respect to food, that they can subsist on such vegetables, as almost any other animals would refuse to eat. The skin of the Ass is converted into leather, and is useful for various purposes : what is called *shagreen* is made from it. The milk is recommended as beneficial in several disorders.

Zebra. Of the habits of life of this beautiful creature, in its native plains, we know but little. It chiefly frequents the open country of the interior of South Africa, lives in herds, and in speed is said to exceed all the quadrupeds of that quarter of the world, except the antelopes. It is vicious, and incapable of being rendered domestic like the horse. Such are its natural shyness and timidity, that it always runs off into the



Buffalo 1. Horse 2. Zebra 3.

woods, even on the most distant approach of mankind. Zebras have not unfrequently been brought into England, and exhibited to the public, both in the Tower of London and at Exeter 'Change. The voice of this animal is said to have a distant resemblance to the sound of a post-horn.

In its general shape and size the Zebra is not unlike the mule. Its hair, however, is almost as smooth as satin, of a pale buff-colour, and beautifully striped with perpendicular bands of brown upon the body, and cross ones upon the limbs.

Quagga. This animal, which, likewise, is a native of the south of Africa, is infinitely more tractable than the zebra; and its wildness has, in some instances, been so far subdued, that it has been trained to the draught.

Its body is thicker, and its limbs more strongly formed than those of the zebra. The upper parts of the body are of a bright-bay colour, striped with perpendicular brown marks. The flanks are spotted, and the rump is plain. The belly, thighs, and legs are white.

Cloven-hoofed Horse. This very singular animal is but little known. It is an inhabitant of South America, frequenting the steep and rocky mountains of the Andes, or Cordilleras. In its disposition it is vicious, wild, and indocile.

It is described by Molina to have the size, colour, and general appearance of the ass, in every respect, except having smaller ears, wanting the dusky cross which is always to be observed on the shoulders of the ass, and having its hoofs cloven.

41. HIPPOPOTAMUS TRIBE.

Only one species of Hippopotamus has hitherto been discovered. It is found in the rivers of Africa, from the Nile as far as the Cape of Good Hope.

Hippopotamus or *River-Horse*. In size nearly equal to the elephant, this huge beast, which is supposed to have been the Behemoth of the Sacred Writings, is, in appearance, one of the most terrific of all the quadruped class. His head is enormous; and the mouth, when open, exposes a monstrous cavity, furnished with teeth which would appal the stoutest heart. The Hippopotamus inhabits the large rivers of Africa. He walks about at the bottom of the water with as much ease and security as other quadrupeds do on land, rising to the surface about once in every quarter of an hour, in order to breathe. During the night he leaves his station in the water, for the purpose of feeding on the vegetable productions of the adjacent country, and to the distance of even four or five miles from the river. But from his clumsy form, and immense weight of body, his motions on land, and particularly in marshy places, are slow and heavy. The force and courage of this animal are said to bid defiance to all his enemies; and in the waters which he inhabits, he continues to reign without a rival, and without control.

The flood disparts : behold ! in plaited mail
Behemoth rears his head. Glanc'd from his side,
The darted steel in idle shivers flies :
He fearless walks the plain, or seeks the hills ;
Where, as he crops his varied fare, the herds,
In widening circle round, forget their food,
And at the harmless stranger wondering gaze !

Of shy and inoffensive disposition, the Hippopotamus is believed never to exert his strength, unless for the purpose of repelling injury. It is even said, that he is capable of being tamed. Belon states, that he saw one at Constantinople, so gentle, that it was sometimes allowed to go loose, and would eat from the hand of his keeper. The tusks of the Hippopotamus are much harder than ivory; and, from the property of preserving their colour, and not becoming yellow, they are considered very valuable in the manufacture of false teeth.

The head of this animal is extremely broad and large, and the mouth of immense width: the teeth, also, are of vast size and strength. The eyes and ears are both small. The body is stout and clumsy, thinly covered with short hair, of a brownish colour. The legs are short and massive, having four small rounded hoofs on the edge of each of the feet. The tail is about a foot in length, and almost a foot in girth at the origin, but tapers towards the extremity.

42. TAPIR TRIBE.

There is only one known species of Tapir. It is confined entirely to the hotter parts of South America.

Long-nosed Tapir. Like the hippopotamus, this animal plunges into the water in order to escape from danger, and can continue there for a great length of time; but this does not form its constant retreat. In feeding, which it does chiefly during the night, on shrubs, fruit, and plants, it uses its long, projecting nose, in the same manner as the rhinoceros applies his upper lip, to grasp

and convey the food to its mouth. It usually resides near the sides of hills ; and occasionally visits the swamps and marshes, in search of food. When at rest, it generally sits in an upright posture, somewhat in the manner of a dog. Such is the mildness and gentleness of its nature, that it is easily tamed ; and in Guiana and other parts of South America, where it is found, it is sometimes kept in the farm-yards, and fed along with the cattle. It is timid, sluggish, and slow-footed, but swims with great agility.

The Tapir has a general resemblance to the hog ; but is, in size, nearly equal to a small cow. In the male the nose is lengthened into a kind of trunk, or proboscis, capable of being extended and contracted at pleasure. The eyes are very small, the ears rounded, and the neck thick. The legs are short and thick, with small, black hoofs. The hair is short, and of a dusky colour ; and on the neck there is a bristly kind of mane.

43. HOG TRIBE.

The mode in which these quadrupeds feed, is by rooting up the ground with their strong and cartilaginous snout. They are partial to muddy and morassy places ; and in their habits are extremely filthy and disgusting.

Common Hog. Indolent, lazy, and stupid, as we in general see these animals, still they are by no means destitute either of activity or intelligence. In a wild state they live in herds, and are very active and courageous. When attacked, they will boldly come forward and defend themselves both against men and dogs. The hunting of wild boars is a favourite amusement in several parts of the

continent; and great numbers of them are every year killed in this way. These are the parent stock of our present valuable domestic. They are found in almost every part of the world, except those countries where the cold is excessive. The wild boar is in size much smaller than the Common Hog. Wild boars were formerly found in England, where, also, they were considered as beasts of chase; but, for many centuries past, they have been all destroyed.

Our domestic Swine, valuable as they are, cannot be considered but as voracious and uncleanly animals. They do not refuse even the most nauseous and disgusting food; and are selfish, indolent, and rapacious. Yet they are capable of great attachment towards each other; and the exhibition of *learned pigs* fully prove that they are by no means destitute of sagacity. The late Sir H. P. St. John Mildmay had a sow which would find game, back, and stand, in the manner of a pointer. Scarcely any animals are more prolific than these. A sow, belonging to a gentleman in Hampshire, is supposed to have produced, in the whole, more than three hundred young ones. The utility of swine is universally known and acknowledged. There are scarcely any parts of their body which may not be converted to some useful purpose. Their flesh is employed as food, and their skins are made into leather. Their bristles are formed into large brushes for painters, and are also used by shoemakers in place of needles.

Pecary. Among the woody hills of South America and the West India Islands, these animals live in considerable herds. They have many of the habits of swine, wallowing in the mire, and occasionally rooting in the earth with their nose, in search of food. Besides roots

and fruit, they feed on all kinds of reptiles and serpents. The latter they hold down with their feet, and very dexterously skin, before they eat them. Naturally of fierce disposition, they fight courageously with beasts of prey. Dogs will scarcely attack them; and, if wounded, they will turn on the hunter. Their voice resembles the grunting of the common hog; but is stronger, and more powerful. On their back, near the rump, there is an open gland, which constantly discharges a fetid and unctuous liquid. Their flesh is much esteemed as food, if this gland be cut out immediately after they are killed; but if it be suffered to remain, the fetid matter soon taints the whole carcass.

The general form of the Pecary, though smaller and somewhat more slender, a good deal resembles that of the hog. It is entirely destitute of tail. The ears are short and erect. The neck is short and thick. The bristles are almost as strong as the spines of a hedgehog, but considerably longer, of a hoary-black colour, each bristle being surrounded with several whitish rings. On the ridge of the back they are nearly five inches in length.

Ethiopian Hog. The singularly hideous appearance, and the savage and ferocious disposition of this animal, cause him to be nearly as much dreaded, by the inhabitants of Madagascar and southern Africa, where he is found, as the lion. Sometimes he rushes out of his retreat upon the unwary passenger, rips up his belly with his tusks, and, in other respects, inflicts very dangerous wounds; and if attacked or pursued, will turn on his opponents with desperation. He lives in a den, under the surface of the ground, which he is said to dig, by means of his callous snout, with nearly as

much expedition as a mole. That these animals are capable of being tamed is evident, from the circumstance of one of them, which was brought into Holland, having become almost domestic. His savage disposition, however, in one instance, so far prevailed, that he wounded his keeper so desperately in the thigh, that the man died the next day.

The principal difference, in appearance, betwixt this animal and the hog, consists in a pair of large and hideous-looking wattles beneath the eyes. The snout also is much broader, and there are no fore-teeth in either jaw.

Babyroussa. These animals, which are of a naturally harmless disposition, and shun the haunts of men, live in herds, and subsist on plants and the leaves of shrubs and trees. If pursued, they seek for refuge by plunging into the water, where they swim with great dexterity. Their faculty of smelling is so acute, that it is not easy to approach their station without being discovered. When pursued, they will frequently turn on and furiously attack the invaders of their peace, endeavouring to wound them with their tusks. There is a notion, that when this animal rests, it suspends itself by the curved tusks of the upper jaw, upon the lower branches of trees. It has even been asserted, that it can bear suspension by these tusks, for a whole night, without experiencing the least annoyance.

The Babyroussa, which is a native of the Indian islands, is of much slenderer form than the hog. Its head is long and narrow; the eyes are small; and the ears likewise small, erect, and pointed. It has two crooked tusks, each about twelve inches in length, resembling horns, which penetrate through the upper part of the

face. On the back there are a few weak bristles; but the other parts of the body are covered with a short, woolly kind of hair, of a gray colour, mixed with red and black.

ORDER VII. CETE, or WHALES.

Although these animals are all of them inhabitants exclusively, of the ocean, they are ranked immediately after the quadrupeds, from their having warm and red blood, breathing by means of lungs, producing living offspring, and nourishing them with milk, in every respect like quadrupeds.

44. NARWAL TRIBE.

The Narwals are distinguished by having one or two long and spiral teeth or horns, and a spiracle, or breathing-hole, on the anterior and upper part of the head.

Unicorn Narwal, or Sea Unicorn. Twenty feet and upwards in length, exclusively of the weapon in front of their head, which is a species of tusk, spirally twisted, and from five to eight feet long, these animals are amongst the most formidable that can well be imagined. They cut their way through the ocean with surprising velocity; and though, in general, of mild and peaceable disposition, they are said sometimes to have dreadful combats with the whales. Their weapons have, in a few instances, been found embedded even in the timbers of ships, to a considerable depth. Like the porpoisses, they herd together in small troops, and feed on marine animals of various

kinds. The young ones are fed with milk, supplied from teats, which are situated near the tail of the parent. They are found, almost exclusively, in the northern parts of the Atlantic Ocean; and are objects of eager pursuit to the Greenlanders, who feed upon their flesh, and use the oil for domestic purposes. The weapon of the Narwal is a valuable kind of ivory, being hard, close-grained, and capable of receiving a very high polish.

The greater part of the animals have only one weapon. The head and the fins are small. The eyes are peculiarly minute. The skin is generally of a white colour, marked with black spots, particularly on the upper parts of the body.

45. WHALE TRIBE.

The utility of the oil and whalebone produced from these animals, has rendered them an object of eager pursuit to mankind. They are chiefly found in the Northern Ocean.

Great Whale. When we reflect upon the enormous length and bulk of this animal, we are overwhelmed with astonishment. Of the length of from sixty to a hundred feet and upwards, and of proportionate girth, it positively exceeds the dimensions of the towers of many of our churches. Its head is immense, constituting nearly one-third of the whole body; and the mouth forms a prodigious cavity. The tongue, which adheres by its under surface to the lower jaw, is as large as a feather-bed. Notwithstanding all these circumstances, the eyes are as small as those of the ox, and the gullet not more than four or five inches in width. These animals swim with wonderful rapidity; and, having no other weapon than their

tail, are generally considered to be shy and timid. Such, however, is the strength of the tail, that a single blow from it would inevitably sink even a large boat. It is by means of this member only that they urge themselves forward in the water. They subsist, principally, on the smaller kinds of fish, which swim in shoals, and on other small marine animals. From the spiracles on the top of its head, this whale sometimes spouts water to a prodigious height and distance, and with a noise which somewhat resembles the rushing of a cataract. The females produce only a single young one each. This they suckle for about twelve months. It is said that the attachment of the male and female to each other exceeds that of most other animals.

So valuable are the different parts of the body of the Whales, in a commercial view, that large vessels are annually fitted out, even from this country, in pursuit of them. Betwixt their skin and flesh they are surrounded with a vast layer of fat, or blubber, the utility of which to the animals consists, no doubt, in preserving the heat of their body, notwithstanding the coldness of the element and climate which they inhabit. When one of these animals is observed from a ship, the boats are manned and immediately sent out, for the purpose of killing it. This is done by means of harpoons, to which long cords are affixed. The Whale no sooner feels that he is wounded, than he plunges down into the deep, carrying along with him the fatal weapon. When he returns to the surface to breathe, the harpooners inflict fresh wounds, until at length he faints from loss of blood, on which a long spear is thrust into his breast, which terminates his existence. The next process is to lash, or tie him to the ship's side, for the purpose of cutting him up, extracting the blubber, and taking out the

whalebone. The quantity of blubber sometimes amounts to seventy or eighty butts. This is what we denominate train-oil. The whalebone adheres to the upper jaw of the animal, in the form of thin, parallel plates, fringed at the edge. Its use consists, principally, in retaining the small food in the mouth, which otherwise, from the immense width and total want of teeth, would nearly all escape. These plates of whalebone are sometimes more than seven hundred in number ; and, in a large whale, the longest of them are from eighteen to twenty feet in length.

The Great Whale has no back-fin, and the spiracles or nostrils, on the fore part of the head, are much contorted. The mouth stretches backward almost as far as the eyes ; and, when closed, the lips are somewhat in the shape of an S. The tail is broad, and somewhat crescent-shaped. The skin of this Whale is very smooth and dark, though not of a uniform colour, but variously shaded, according to age or circumstances.

Fin-backed Whale. The last species is found only in the Arctic Seas ; but the present not only occurs in the same seas, but even as far south as the equator. From the ferociousness of its disposition, and its yielding but a small quantity of blubber, it is neglected by the whale-fishers, who also have a notion, that wherever it appears the other species are driven away. It feeds on several small kinds of fish, particularly on herrings and mackerel ; and spouts water from the double orifice on the top of its head, with great force. The whalebone in these animals is of a bluish colour.

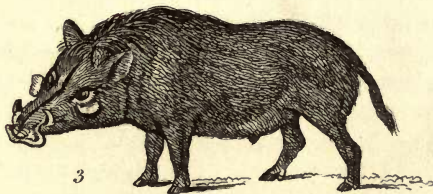
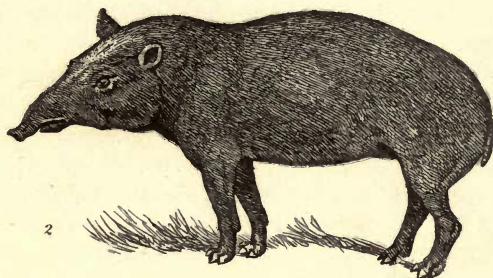
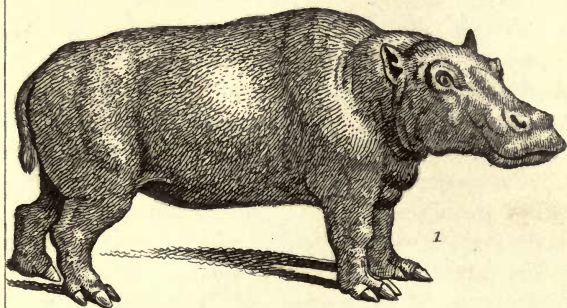
The Fin-backed Whale is of nearly the same length as the great whale, but not more than about one-third of the circumference. On the middle of the fore part of the head

there is a double orifice. Its lips are brown, and somewhat resemble a twisted rope. On the hinder part of the back there is a straight, soft, and sharply-pointed fin, between three and four feet long. The colour of the upper parts of the body is a clear brown, and of the lower parts white.

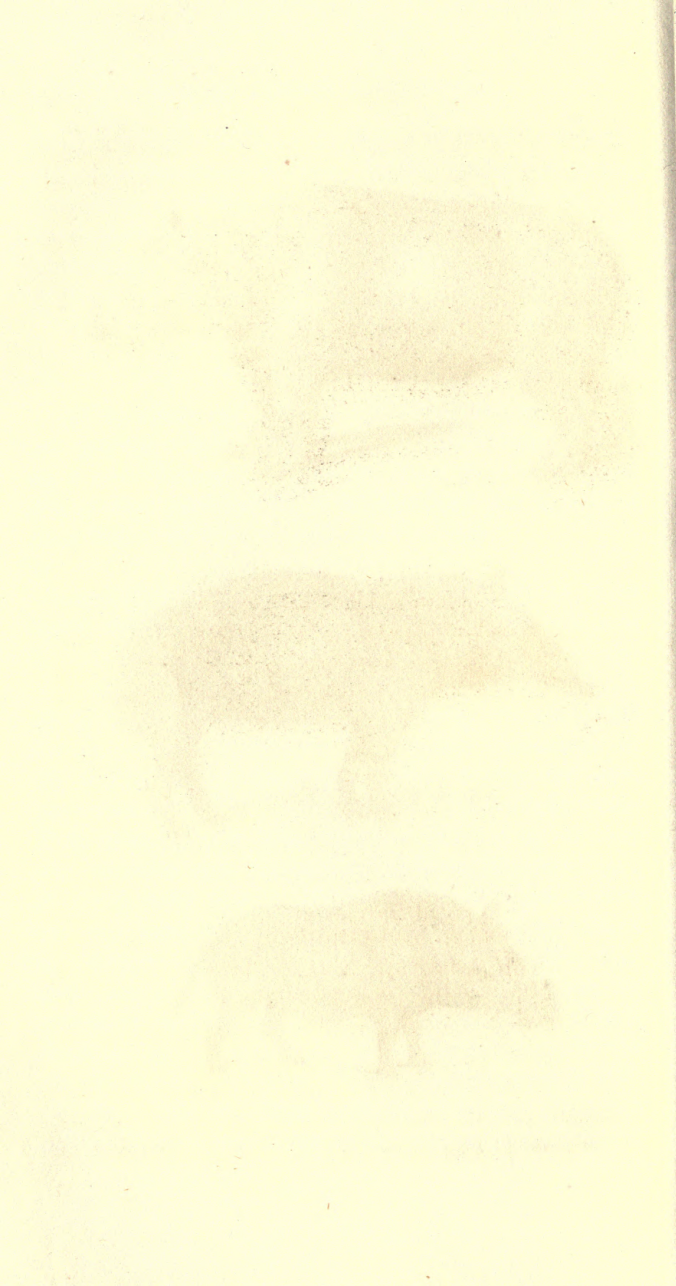
46. DOLPHIN TRIBE.

All the species of Dolphin are very voracious. They are generally found in herds; and eagerly pursue fish, seals, and other marine animals. Like the whales, they have a thick layer of fat, or blubber, on the outside of their bodies, betwixt the skin and the flesh.

Common Dolphin and Porpesse. In nearly all their habits, the Dolphin and Porpesse have a close resemblance to each other. The former are, however, much less common in the neighbourhood of the British shores than the latter. They are each found throughout the European Ocean, and the Dolphin is by no means uncommon in the Pacific. They generally swim in troops and with great velocity, and are fond of playing about in the water. Their appearance is, however, much dreaded by seamen, who consider their presence as the invariable indication of approaching storms. They feed on all kinds of fish, but more particularly on such as swim in large shoals, as cod, herrings, and mackerel: and, occasionally, they root about in the mud at the bottom of the ocean, in pursuit of flat-fish. They seldom produce more than a single young one at a birth. The different estimation in which these animals have been held by mankind is very singular. The Dolphin, consecrated to the gods, was celebrated for its love to the human race, and was honoured



Hippopotamus 1. Long nosed Tapir 2. Ethiopian Hog 4.



with the title of the "sacred fish;" whilst the Porpesse, without cause, holden in abhorrence, has almost universally been degraded by the appellation of "sea-hog." By the ancient Greeks and Romans it was believed, that in cases of shipwreck, Dolphins were almost always in waiting, to convey the unfortunate mariners on shore. It has been customary with painters, to represent the Dolphin in an arched form; this, however, is a great error, as the animal only occasionally assumes this form, when in the act of gambolling about near the surface of the water. The flesh, both of the Dolphin and Porpesse, is considered, by seamen, as by no means bad eating.

The body of the Porpesse is of a somewhat conical form; the snout is blunt, and the back broad. Of the Dolphin, the body is oblong and roundish: and the snout is narrow and pointed, with a broad, transverse band, or projection of skin, on its upper part. Their length is from five to ten feet; but the Porpesses are generally the shorter of the two. They are each of a blackish colour on the upper parts of their body, and white beneath.

Grampus. There are no animals of their tribe so powerful and so ferocious as the Grampus. They alike attack both the larger and smaller inhabitants of the ocean. Swimming in considerable troops, they are even so daring as to attack the largest whales, tearing their flesh, and tormenting them in a most cruel manner. Their chief food, however, is said to consist of the different kinds of flat-fish.

These animals, which are found not only in the Atlantic, but also in the Southern Ocean, as far as the Antarctic Circle, are from twenty to twenty-five feet in

length. Their snout is broad, and somewhat turned upward, and the teeth are broad and serrated. On the back there is a long fin. In colour they somewhat resemble the Porpesse.

CLASS II. BIRDS.

ORDER I. ACCIPITRES, or RAPACIOUS BIRDS.

1. VULTURE TRIBE.

Bold, greedy, and rapacious to an excessive degree, the Vultures seize upon, and devour their prey, unawed by the presence of mankind. Their sense of smelling is so powerful, that they are able to discover the putrifying bodies of animals at an immense distance.

Condur. This tremendous and dreadful inhabitant of the mountains of South America is of so enormous a size, that his wings, from tip to tip, sometimes measure from sixteen to eighteen feet. The largest quill-feathers are more than thirty inches long, and, in the quill part, an inch and a half in circumference. A size so extraordinary has given rise to many incredible stories respecting the Condur. Marco Paolo states, respecting it, that, "singly and unassisted, it will seize upon an elephant, elevate the ponderous animal into the air, and drop and kill it by the fall." And it is supposed to have been to this bird, that the writer of the Arabian tales was indebted for his idea of the bird there called the *roc*. There can be little doubt of the possibility of this bird's carrying off

in its talons, deer, sheep, and calves. It is even stated, that three of them are able to kill and devour a cow. Condamine informs us, that he has seen a Condur hover over a flock of sheep, which it was only prevented from attacking by the presence of the shepherds. Condurs reside among the highest and most inaccessible rocks, and there procure their subsistence; except in the rainy season, when they resort to the sea-shores, and pick up the large fish which are cast ashore by the storms. It is said that when alighting on, or rising from the ground, they make such a noise with their wings as to terrify, and almost deafen any one who happens to be near the place. The female makes her nest upon the rocks, generally under the shelter of some projecting ledge, and lays two white eggs, which are not much larger than those of a turkey.

The head of the Condur is clothed with a brown kind of wool, or down, and upon it there is a kind of warty excrescence, or comb. The throat is naked, and the neck is surrounded with a collar of longish white feathers. The legs are excessively strong and large, and, as well as the bill, are black. The plumage is generally black, variegated with white and gray.

Aquiline or Egyptian Vulture. In the hottest parts of Africa, Asia, and Europe, these birds, which prefer putrid animal substances to all other kinds of food, perform the useful office of scavengers, in removing filth from the towns and villages. They collect together in flocks, perch upon the walls and houses, and are protected by the inhabitants, on account of the importance of their services. Their chief times of feeding are the morning and evening. The ancient Egyptians held them in great veneration; and we are informed by Hero-

dotus that it was considered a capital crime to kill one of them. They follow in the train of armies, for the purpose of preying on the bodies of the slain; and it is stated, that they are able to perceive their prey at distances which are infinitely beyond the reach of human vision. There are no animals existing whose appearance and habits are more disgusting and filthy than those of the Aquiline Vultures.

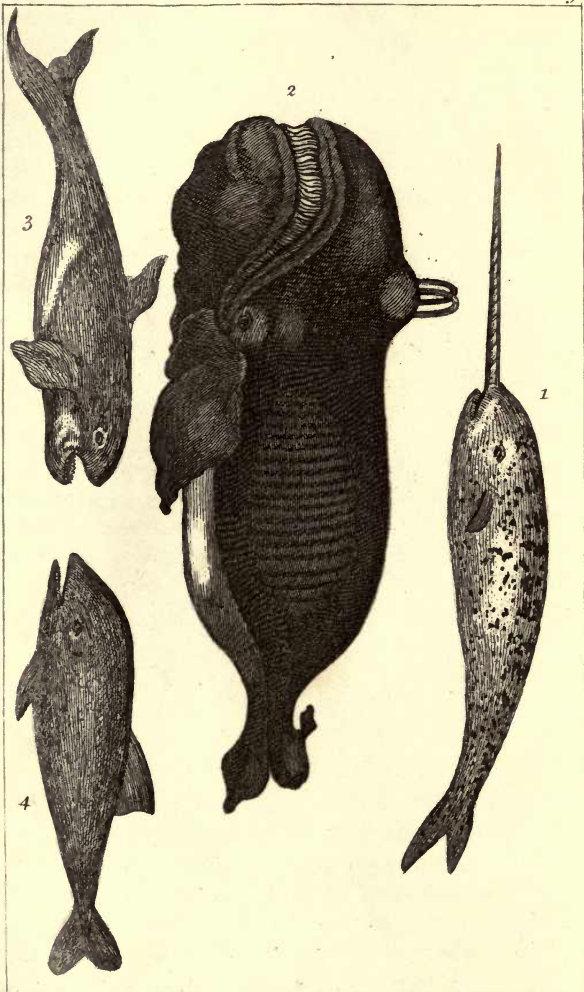
The male is about three feet three inches in length, and the female is somewhat larger. The quill-feathers of the wings are black, having their outer edges, except those of the two exterior ones, of a hoary colour. The general colour of the male is white, and of the female brown. The two outermost primaries of each wing, in the male, and the four outermost in the female, are entirely black. The head and neck are naked. The beak is black and hooked, and has at its base a yellow cere.

2. FALCON, OR EAGLE TRIBE.

These birds differ, in many respects, from the vultures. They seldom prey on carrion; but in almost all cases kill the animals which they devour. Many of the species eat fish, and some of them subsist even on reptiles and serpents.

Golden Eagle. Like some others of its tribe, this majestic bird forms its nest, or aëry, on the ledges of the highest and most inaccessible mountains, and the young ones are carefully and regularly fed and attended, both by the male and female parents. From their strength, their courage, and the circumstance of their despising weak foes, these Eagles have obtained, among birds, the same royal appellation which the lion has among





Unicorn Norwal 1.

Whale 2. Grampus 3. Porpoise 4.

quadrupeds. They disdain petty plunder, and are said only to pursue animals that are worthy of conquest. Carrion they invariably refuse; however hungry, they never satiate themselves on putrid bodies, but leave these to others, less able to pursue, and less difficult to please than themselves.

The Golden Eagle is a native of Asia, Europe, and even of some of the most mountainous districts, both of Great Britain and Ireland. It is about forty inches in length. The bill is blue, and the cere yellow. The legs are of a dirty yellow colour, and feathered to the toes. The plumage is a mixed brown and rust colour. The tail is clouded with ash colour at the base.

Sea Eagle. This species is often mistaken for the golden eagle. It forms its nest among rocks, generally in the neighbourhood of the sea; and subsists principally on fish, which it takes as they swim near the surface, by darting upon and seizing them in its talons. These birds are found on the sea-coasts of various parts of Europe, Asia, and America.

The bill is bluish; the cere and legs are yellow. The general colour of the upper parts of the body is a rusty brown, variegated with deep brown, inclining to black. The scapulars are pale brown, each feather edged with white. The interior sides and tips of the tail-feathers are of a deep brown; the exterior sides of some of them are ferruginous, and of others marked with white.

Osprey, or Fishing Eagle. The Osprey usually resides in the neighbourhood of the sea, and also of rivers and lakes which are well supplied with fish. It feeds on fish, on water-fowl, and even on land birds; and,

in defect of better food, will devour even toads and frogs. These birds generally build their nests on the ground, and lay three or four white eggs, which are somewhat smaller in size than those of a hen.

Their usual length is about two feet. The head, neck, and under parts of the body are whitish. The back, wings, and a stripe on each side of the neck, are dark brown. The legs are bluish; and the wings, when closed, reach beyond the end of the tail. These birds are found in various parts of Europe, Asia, and America, and are occasionally seen even in England.

Buzzard. Of a sluggish and inactive disposition, this bird, which is a native of the woods of many parts of England, will sometimes continue, for several successive hours, perched upon the bough of a tree, and will not leave it, unless enticed so to do, by the near approach of prey. On the continent, it is very destructive in the poultry-yards. Its chief food consists of small birds, quadrupeds, reptiles, and insects. The Buzzards build their nests in trees, and generally lay two or three eggs, which are spotted with yellow. The male partakes with the female, in the task of rearing the offspring.

The length of the Buzzard is about twenty inches. Its plumage is dusky on the upper parts, and whitish, varied with brown, beneath. The wings and tail are marked with bars of a darker hue. The tail is greyish beneath, and tipped with dusky white. The bill is lead-coloured, the legs are yellowish, and the claws black.

Gyrfalcon and Gentil Falcon. In former times, the sport of falconry was probably more pursued amongst

the higher classes, than that of hunting is at present. A person of rank, it is said, seldom went abroad without a hawk on his hand; and in old paintings, this is considered in almost all cases, as a criterion of nobility. The kind of falcons or hawks that were in use in these kingdoms, are still found to breed in Wales, and in the mountainous parts of Scotland. Of these the Gyr Falcon and the Gentil were reckoned amongst the most valuable, as being noble, bold, and spirited birds. Each of the species builds its nest upon the ledges of rocks. The former are now chiefly bred in Iceland, and are transported from thence into France, Italy, and even into Persia and Turkey. It is stated, that they will attack, with dauntless courage, even the largest of the feathered race. The stork, the heron, and the crane, are easy victims. In this pursuit, the Falcon endeavours to rise above its adversaries, and destroys them by darting down with all its force, upon their backs.

The Gyr Falcon is not much inferior in size to the osprey. The bill is hooked, and yellow. The plumage is white, with dusky bars, lines, and spots. The cere and legs are of a pale blue colour.

The Gentil Falcon is considerably smaller than the last species. The beak is lead-coloured; and the cere and legs are yellow. The body is ash-coloured above, with brown spots. The under parts are white, with dusky, heart-shaped spots. The tail has four or five broad, blackish bands, and is dotted with white. The claws are black.

Kite, or Glead. The motion of this bird in the air, not only distinguishes it from every other species of hawk, but has been the origin of its name. This

motion is so smooth, that the action of the wings is scarcely perceptible. The country people have a notion, that this sailing in the air of the Kite is portentous of bad and stormy weather; and that, when these birds soar high, fine weather will follow. Their being noisy and clamorous, is said also to foretel rain. London must have greatly, indeed, improved in cleanliness since the time of Clusius, who states, that he had seen, even in the city, an immense number of Kites, which flocked there, for the offals and dead animals which were thrown into the streets. Unalarmed by the presence of mankind, they seized upon their prey, even in the midst of the greatest crowds. Kites form their nests in woods, and lay two or three roundish eggs, which are of a whitish colour, with dingy yellow spots. They are found in England through the whole year; but they annually migrate from other parts of Europe, into Africa and Asia.

The Kite is distinguished from every other British bird of prey, by its forked tail. Its length is about twenty-seven inches. The beak is much hooked, and the cere yellow. The colour of the plumage is rusty; and the head whitish, marked with black.

Sparrow Hawk. Few birds of its size are more courageous, or more destructive than the Sparrow Hawk. It unsparingly attacks all kinds of game, and oftentimes seizes upon both pigeons and poultry. It is capable of being trained like a falcon, to the chase of partridges or pigeons. The nest of these birds is generally built in hollow trees, upon high rocks, or ruinous buildings. The number of eggs is four or five, marked at the larger end with reddish spots. The Sparrow



Condur 1. Golden Eagle 2. Buzzard 3. Sparrow Hawk 4.



Hawk was in great esteem among the ancient Egyptians, their god Osiris being represented under this form. It is found in all the countries from Russia, southward, to the Cape of Good Hope.

The length of the male is about twelve, and of the female fifteen inches. They vary greatly in colour. The upper parts of the female are sometimes dusky bluish ash-coloured, sometimes dusky brown; and of the male, somewhat dove-coloured. The under parts are yellowish white, waved with grey; and the tail is barred with black. The beak is bluish, the cere green, and the legs yellow.

Kestrel. In some countries the Kestrel is trained for the catching of game. It preys on small birds, and even on mice and insects. It soars into the air, hovers for some time over a fixed place, on watch for prey, gently fanning its wings, and suddenly darts upon it, the moment it is in sight. As soon as this is seized, it plucks off the feathers, if a bird; but if a mouse, swallows it entire, and discharges the hair and bones by the bill, in the form of round balls. Kestrels breed in similar places with the sparrow hawk, and lay four or five eggs, which are of a pale reddish colour. They are found in all parts of Europe, and also in Siberia and Tartary.

The male is about fourteen inches in length. The cere and legs are yellow. The back is of a purplish red colour, with brown spots, and the breast is marked with streaks of brown. In the male, the crown of the head and the tail are of a light grey colour; the latter being rounded, and having a broad, black band near the end. The tips of all the tail-feathers are white, except the middle ones. In the female, the colours are less bright

than in the male, and in other respects they are somewhat different.

3. OWL TRIBE.

These are chiefly nocturnal birds, or fly abroad in search of food, only in the evening and during the night. They prey on small birds, mice, and several of the larger kinds of insects. Their head is round; and about the eyes the feathers are ranged as if proceeding from a common centre in the middle of the eye. Some of the species have feathers on each side of the head, which have the appearance of ears or horns.

Great Horned or Eagle Owl. This bird, in ancient times, was considered sacred to Minerva. It is of immense size, inhabits inaccessible rocks and desert places, in several parts both of Europe and Asia, and preys, by night, on hares, rabbits, rats, moles, and nocturnal birds. Its nest is large, sometimes betwixt two and three feet across, formed of sticks, roots, and leaves. The eggs are two in number, somewhat larger than those of a hen, and in a measure variegated like the plumage of the bird. The Great Owl has sometimes, though very rarely, been seen wild in the mountainous parts of Great Britain.

The plumage is of a tawny red colour, marked with lines and spots, elegantly varied, of black, brown, ash, and rust colour. The tail is marked with transverse dusky streaks. The legs are of a brick-dust red colour, and generally feathered to the claws, which are large, hooked, and dusky.

Short-eared Owl. In nearly all its habits, this bird has a great resemblance to the last species. It is migratory,

visiting the fens of Lincolnshire about the beginning of October, retiring early in the spring; and thus, probably, as Mr. Pennant observes, performing its migrations with the woodcock. Its summer retreat is Norway. It conceals itself during the day, in long, old grass. When disturbed, it seldom flies far at a time, but will alight, and sit looking at the intruder. It has not been observed to perch upon trees, like other Owls. Farmers are partial to these birds, from the circumstance of their destroying great numbers of field-mice. They much more frequently fly abroad in the day-time, than any other Owls.

They are about fourteen inches in length. The horns are short, consisting only of a single feather each, which is capable of being raised or depressed at pleasure. The body is of a pale varied brown colour above, the feathers edged with yellow, and of a pale yellow beneath, streaked downward with dusky marks. The circle of feathers that immediately surrounds the eyes, is black. The legs, thighs, and toes, are covered with plain yellow feathers.

White or Screech Owl. From its solitary habits, its frequenting churches, castles, and other old buildings, and the screaming noise which it makes during flight, this owl has been considered, by the superstitious, in a most unfavourable point of view. And, as it frequently approaches windows where there is a light in the room, a circumstance which is usual in apartments of sick persons, it has been justly remarked, that its voice may be considered appalling by the weak and the timid. In its repose, this Owl makes a blowing kind of noise, somewhat resembling the snoring of a human being. It is entirely a nocturnal bird, feeding in the evening and

night, on mice, small birds, and insects, and throwing up the indigestible parts in the form of small pellets. White Owls deposit their eggs, five or six in number, and of a whitish colour, in holes of old walls, or under the eaves of unfrequented buildings. The old birds continue to feed their young ones with mice, even for a long time after they are able to fly.

The plumage of the upper parts of the body is of a delicate pale yellow colour, with innumerable white dots; and that of the under parts is whitish, with black dots. The bill is white; and the legs are feathered to the claws.

Little Owl. This Owl is scarcely larger in size than a thrush. It is sometimes, though rarely, seen in England; but is very common on the continent of Europe, and also in America. We are informed, that it sees better in the day-time than most other nocturnal birds, and sometimes flies abroad in pursuit of prey, even during the sunshine. The mice and small birds, on which it chiefly feeds, it tears in pieces with its bill and claws, and then swallows by morsels. It frequents rocks, caverns, and ruinous buildings, forming there its nest, and laying five eggs, which are of a white colour, spotted with yellow. Its cry sounds like the words *pou-pou, haime-haime*.

The bill is whitish brown. The head, back, and wing-coverts are light brown with white spots. The breast is whitish, variegated with rusty. The wing-quills have five rows of white spots. The tail is barred with white, and all the quill-feathers are marked with regularly-disposed, round, and white spots. The feet are feathered to the claws.



Great Horned Owl 1. Screech Owl 2. Little Owl 3. Short Horned Owl 4.

ORDER II. PIES.**4. SHRIKE TRIBE.**

This tribe forms a link in the chain of being, connecting the Rapacious Birds with those called Pies. With the former it agrees in the strength, and, in some degree, the form of its bill; whilst it resembles the latter in its general manners and appearance, in the form of its tongue and tail, and in the structure of its feet.

Great Shrike, or Butcher Bird. The name of *Butcher Bird* has been given to this species, from their very singular habit of seizing their prey and afterwards sticking it upon a thorn, for the purpose of tearing it to pieces with their bill. In this manner they spit young birds, and some of the larger kinds of insects. It is supposed that they are endowed with this instinct, because they have not strength sufficient in their claws to hold it down whilst they tear it. There is a popular notion respecting them, that they watch the coming of hawks, and give them notice of birds concealed, in order that they may prey on such as they have not themselves the power of overcoming. The Great Shrikes live in woods and thickets, in wild and mountainous places; and are inhabitants not only of England and other parts of Europe, but also of America. Their flight is generally in a somewhat zigzag direction, and with precipitation. They build their nests of heath, dry grass, wool, and feathers, and lay six or seven eggs, of a dull olive-green colour, spotted at the larger end with black.

The general length of this Shrike is about ten inches. The bill and legs are black. The upper parts of the plumage are of a bluish ash-colour. The wings are black, with a white band. All the under parts of the body are of a dirty white. The tail is wedge-shaped, and black, varied with white.

Red-backed Shrike. In most of their habits the Red-backed Shrikes resemble the last species. They generally form their nests in hedges, or low bushes, laying six eggs of a whitish colour, with a reddish-brown circle towards the larger end. It is stated, that, when sitting on the nest, the female soon discovers herself, by screaming loudly at the approach of any person.

This bird is not quite so large as the last. It is principally distinguished by the back being of a grey colour, by the four middle tail-feathers being uniformly gray, and the bill lead-coloured.

5. PARROT TRIBE.

There is no tribe of birds so numerous as this. More than a hundred and seventy distinct species have already been ascertained. They inhabit only hot climates, where they collect together in vast flocks, and, by their beautiful colours, give great brilliancy to the woods which they frequent. They hold the same place among birds, which apes and monkeys do among quadrupeds.

Brasilian Green Macaw. In the woods of Brasil, Guiana, and Jamaica, the Brasilian Macaws are sometimes found in great flocks. A person walking in these woods hears only their incessant screaming, but, so long as they continue in the trees, he discovers nothing : their

green colour being exactly that of all the surrounding foliage, they are completely undistinguishable. This, however, seldom continues the case long together; for such is the restlessness of their habits, that they are almost incessantly shifting their place, and flying from one tree to another. They live chiefly on fruits; and as soon as they have stripped one tree, some one of the party flies to another; and it is said, that if that is found fit, he invites his companions by a loud and shrill call, which they almost instantly obey. These birds are frequently brought into England. When properly tamed they will become sufficiently pleasing and familiar; and, in this state, will eat, indiscriminately, bread, meat, fish, and almost all other kinds of provisions. It is, however, to be remarked, that parsley is a deadly poison to them.

Their length is about seventeen inches. The bill and claws are black. The plumage is green, except the wing and tail quills, which are blue above and purplish underneath.

Yellow-crested Cockatoo. This noisy and screaming bird is a native of the Molucca Islands. It is to be seen in almost every exhibition of wild animals. It is taught to utter words and sentences, which it does, and sometimes to great length, with considerable fluency. The crest upon its head is capable of being erected and depressed at pleasure.

This bird is about eighteen inches long, and of a white colour, except the crest, the wing quills, and part of the lateral tail quills, which are of a yellow colour. The bill, the cere, legs, feet, and claws, are black. A circular space round each eye is white and naked. The crest is about five inches in length.

Common Ash-coloured or Hoary Parrot. No foreign bird is better known than this, and chiefly from its bearing our climate without injury, and becoming oftentimes very loquacious. It modulates its voice with great flexibility, and learns easily to repeat almost everything it hears. These birds are found throughout the forests of almost all the western coast, and of several parts of the interior of Africa. Many remarkable stories have been related of their faculty of talking, or rather of imitating the sounds of the human voice. The most singular, and, at the same time, apparently the best authenticated, are the two following. A Parrot belonging to King Henry the Seventh, who then resided in his palace at Westminster, by the river Thames, had learned to speak many words from the passengers as they took boat. One day, sporting on its perch, the bird fell into the water, and immediately exclaimed, "Boat! boat! twenty pounds for a boat!" A waterman happening to be near the place where the Parrot was floating, took it up, and restored it to the king. The bird was known to be a favourite, the man, therefore, insisted that he ought to have a reward more equal to his service than his trouble. It was, at length, agreed to leave the recompense to the decision of the Parrot: "Give the knave a groat!" screamed the bird, the instant the reference was made.—Willughby tells us of a Parrot, which, when any person said to it, "Laugh, Poll, laugh," laughed accordingly; and the instant afterwards exclaimed aloud, "What a fool, to make me laugh!"—The late Colonel O'Kelly had a Parrot for which he gave a hundred guineas. This bird could sing several songs, repeat a great number of sentences, and answer many questions. The Colonel was several times offered five hundred guineas for it, but he retained it to the last.

The Ash-coloured Parrot is about twenty inches in length. Its plumage is of a hoary, cinereous colour, with naked, white temples, and scarlet tail. The bill is black, the cere white, and the legs are cinereous.

6. TOUCAN TRIBE.

These birds are remarkable for the immense size of their bill, and for their tongue being feathered at the edges. They are inhabitants only of South America.

Red-bellied Toucan. Notwithstanding the formidable appearance of its bill, this is one of the most harmless and gentle of all birds, subsisting upon and preferring fruit and vegetables to all other kinds of food. This enormous bill is so apparently disproportioned to the size of the bird, as to render its flight, in some respects, heavy and difficult. It is said of these birds, which usually associate in small flocks of ten or twelve, that when they retire to sleep they place a sentinel, to give alarm, in case of the approach of an enemy. They feed almost wholly on fruit, and, in playfulness, they frequently throw this into the air, and catch it in their beak before they swallow it. Their nests are formed in holes of trees, and the females are able to guard the entrance against every enemy. And even if a monkey, the most mischievous of all animals, should offer but a visit of curiosity, she gives him so close a reception that he is glad to scamper away. The Toucans are easily tamed, and in this state will jump about with the utmost familiarity, sometimes in a most laughable manner, and crying with a voice somewhat resembling that of a magpie. They are fed nearly in the same manner as parrots, but are more partial to grapes than any other food. The

tongue of the Toucan is very singular : it is long, flat, thin, and not unlike a feather ; and in their play the birds frequently extend it to the distance of five or six inches out of their bill.

The Toucan is about twenty inches in length. The bill is six inches long, and nearly two inches thick at the base. The plumage of the upper parts of the body, the throat, and neck, is blackish. The breast is yellow, the belly red, the rump black, and the tail-quills are tipped with red. The bill is greenish-yellow, somewhat red at the tip. These birds are natives of several parts of South America, but particularly of Guiana and Brasil.

Toco, or White-throated Toucan. The disproportion betwixt the size of the bird and the bill, in this species, is more remarkable than in any other. The Toco is nine or ten inches in length, and the bill measures at least seven and a half. This is of a reddish-yellow colour, black at the base and at the tip of the upper mandible. The plumage of the back is reddish, and of the chin, throat, and rump, white. The orbits of the eyes, a small circle on the breast, and a spot under the tail are red.

7. HORNBILL TRIBE.

The Hornbills are all inhabitants of hot climates. In many respects their habits of life are similar to those of the toucans.

Abyssinian Hornbill. The bill of the toucan appears greatly disproportioned ; that of the Hornbill is not less so, but in a very different way. It has, on the upper part, a horny protuberance, of considerable size, the

peculiar uses of which are hitherto unknown, unless, as some writers have supposed, it is employed in bruising and detaching the bark of trees, for the purpose of enabling the bird to feed on the insects which are concealed beneath. This species, which is an inhabitant of Abyssinia, was first discovered by Mr. Bruce. He states, that it feeds chiefly on beetles, builds in large, bushy trees, generally in the neighbourhood of old buildings, and produces a numerous brood of young ones. It has a rank and putrid smell, runs much upon the ground, but, when raised, flies strongly, and to a considerable distance.

The plumage is black. The orbits of the eyes, cheeks, temples, chin, and upper part of the throat, are covered with naked, warty flesh, of a light-blue colour, which becomes red when the bird is irritated. The bill is black, with white edges. The horny protuberance has a flattened semicircular surface. The length of the Abyssinian Hornbill is about three feet ten inches.

Malabar Hornbill. The inhabitants of the island of Ceylon keep these birds tame in their houses, for the purpose of devouring mice and other vermin, which they pursue with as much eagerness as cats do with us. In a wild state they inhabit the forests of India, and of several of the large islands in the Indian Seas, roosting on the loftiest trees, and forming their nests in the decayed and worm-eaten holes of the trunks. The females lay four or five eggs; and it is said that the young ones do not attain their full growth and plumage until they are two years old. These birds feed on small quadrupeds, on insects, lizards, and sometimes on frogs. They are easily rendered tame.

This is a somewhat smaller species than the last. Its

plumage is black, with a greenish tinge above and white beneath. The outer quill-feathers are white at the end. All the tail-feathers, except the four middle ones, are white and black at the base. The bill is of a dirty yellowish-white, except the protuberance, the greater part of which is black. This is rounded above, sharp-edged forwards, and the hinder part reaches to the crown of the head behind the eyes.

8. CROW TRIBE.

The Crows constitute a numerous and mischievous tribe. They generally associate in flocks, and form their nests in trees. Their food is either animal or vegetable as necessity or circumstances allow.

Raven. The constitution of this predacious bird seems equally adapted to every climate. No animal food, however putrid, comes amiss to him. When pressed by hunger, he will devour dried skins, and even the most fetid substances. Ravens live in pairs, and build their nests in high trees, or on lofty and inaccessible rocks; the female laying five or six bluish-green eggs, spotted with brown. On these, it is said, the male sometimes sits during the day-time, and the female in the night. They are very careful in the rearing of their young ones. Ravens are long-lived: some have been known to live more than fifty years. They are easily rendered tame and familiar, but in this state are oftentimes very mischievous and troublesome. They steal and hide whatever they are able to carry away; and exhibit many traits of dexterity and cunning. They may be instructed in the art of fowling, may be taught to fetch and carry, and even to speak. This they frequently do with great ease and distinctness.

The inhabitants of Greenland eat the flesh of Ravens, make clothes of their skins, and form the split quills of their wings into fishing-lines.

The Raven chiefly differs from the crow, in being of much larger size. Its plumage is of a beautiful black colour, glossed on the back with a bluish tinge.

Common, or Carrion Crow. The principal food of these birds seems to consist of dead carcasses; but they will also subsist upon grain and fruit, and they sometimes kill and devour small birds and quadrupeds. We are informed by the late Dr. Darwin, that a friend of his saw, on the sea-coast of Ireland, above a hundred Crows preying at the same time upon muscles. Each Crow took up a muscle into the air, twenty or forty yards high, and let it fall on the stones; and thus, by breaking the shell, got possession of the animal. It is related, that a certain ancient philosopher, walking along the sea-shore to gather shells, one of these unlucky birds, probably mistaking his bald head for a stone, dropped a shell-fish upon it, and killed at once a philosopher and an oyster. They sometimes collect into flocks; but during the spring of the year they separate into pairs, for the purpose of forming their nests, and producing and rearing their offspring. Their nests are usually constructed of sticks, dried grass, and bits of wool; and the females lay from four to six eggs, which are of a bluish-green colour, somewhat spotted with brown.

Rook. Associating generally in large flocks, these birds are favourites in many parts of our country; building their nests in trees immediately surrounding old family mansions, and sometimes forming, in such situations, a most populous community. They usually fly

abroad in the mornings and evenings in large bodies, but during the middle of the day disperse themselves in quest of food. It is certain that these animals are occasionally injurious to the farmer by devouring his corn; but it is much to be doubted whether the havoc they commit amongst insects and their grubs is not much more than an equivalent for any injury they may do to the corn. In some of the south-eastern counties of England the farmers consider it worth their while to encourage the breed of Rooks, as the only means of ridding their grounds from the pernicious grub which produces the cockchafer. No birds are more noisy and clamorous than these, especially whilst employed in constructing their nests; nor are any more mischievous or thievish with respect to each other. The strong ones almost always plunder those that are weak of the materials which they have collected together, and this causes amongst them frequent quarrelling and battles. It is from this circumstance that their name of *Rook*, which is a cant word for *cheat*, has been derived. Their eggs somewhat resemble those of the crow. After the breeding season is over, the Rooks forsake their nest-trees, and for some time roost elsewhere. But they always return in the month of August; and in October they repair their nests. When these birds are young they are considered, by many persons, as good eating, particularly when skinned and made into pies.

The principal distinction betwixt the Rook and the crow consists in the head; the nostrils and root of the bill of the former being naked, and of the latter covered with bristly hair.

Hooded, or Royston Crow. This is a migratory species, which arrives in the southern parts of England,

generally about the middle of May. In the north it visits and leaves us nearly at the same time with the woodcock. In some parts of Scotland it is almost the only kind of Crow that is seen. It builds its nest in trees, and lays five or six eggs. In its feeding it is by no means select, but will indiscriminately devour carrion, small quadrupeds, birds, shell-fish, frogs, snails, and insects; and, in defect of other food, will eat berries, grain, and seeds. We are informed, that it usually sits with its head towards the wind; and that it is to be caught by the simplest snare. The Hooded Crows usually fly in flocks, and they will sometimes mingle in the flocks of carrion Crows.

They are about the size of the rook. Their body is of a cinereous colour, having the head, throat, wings, and tail, black.

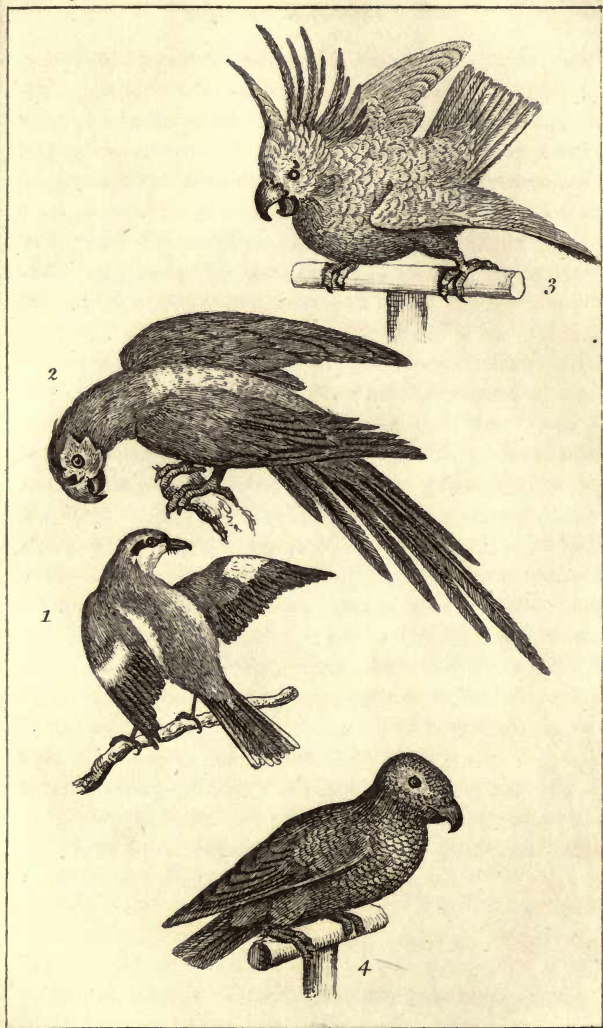
Jackdaw. In the general appearance and habits of the Jackdaw there is something very amusing, particularly when rendered tame. His pertness and loquacity are greater than those of most others of his tribe. He is docile, but thievish; and so voracious that he will frequently seize and carry off much more food than he can possibly consume. When carefully attended to, he may be taught to speak with great distinctness. In a wild state these birds collect in flocks, feed principally on worms, insects, grain, and seeds, and build their nests in church-steeple, ruinous edifices, high rocks, and sometimes even in rabbit-holes; the females laying five or six eggs, which are smaller and paler than those of the crow.

The Jackdaw is considerably smaller than the rook. Its plumage is black, except the hind part of the head, which is of a hoary-gray colour.

Jay. For the general beauty of plumage there are few of our native birds which can vie with the Jay. It is found in nearly all parts of Europe; and even in Siberia, as far as the Uralian Mountains. In England it is so common as sometimes to prove very injurious in our gardens, by destroying the peas and fruit. Its voice is loud, harsh, and disagreeable. These birds construct their nest in low bushes, almost wholly of the fine fibres of roots; and the number of eggs in each nest is from four to six, of a dullish white olive colour, obscurely mottled with pale brown. If taken young, they are capable of being rendered very docile; and, like the jackdaw and raven, may be taught to speak. Their natural voice is a harsh and grating scream.

The back and breast of the Jay are of a delicate cinnamon-colour; and the wing-coverts are blue, marked with transverse lines of black and white. The bill is black, and the chin white. On the top of the head there is a tuft of long, white feathers, streaked with black. The tail has twelve black feathers. The rump is white.

Magpie. This chattering, pert, and impudent bird, is found throughout all the temperate and warm parts of Europe, in North America, Northern Asia, and even in Japan. It is so crafty, restless, and shy, that it does not readily allow of an approach within gun-shot, especially if it has any suspicion of a foe. It builds its nest in trees. This is formed of sticks on the exterior, and lined at the bottom, within, with grass, wool, and other soft materials. In its structure it is very curious, having a kind of canopy, and a hole for entrance on one side. The Magpie feeds on almost every kind of substance, both animal and vegetable. It will even devour chickens, and pick out the eyes of lambs, if they happen to be weak



Great Shrike 1. Green Macau 2. Yellow Crested Cockatoo 3.
Grey Parrot 4.



or sickly. In rabbit-warrens it sometimes commits great depredation. We also not uncommonly see it perched upon the backs of sheep, for the purpose of picking and eating the ticks. If taken young, the Magpie is easily tamed and rendered familiar, and, like some others of its tribe, may be taught to utter several words and sentences, with great distinctness. It is, however, extremely mischievous; and is inclined to steal and hide almost every thing which it is able to carry away.

Cornish Chough, or Red-legged Crow. These birds associate in flocks, chiefly in the neighbourhood of rocks, old buildings, and churches, by the sea-side. They are found in various parts of the continent, and are much more common in Cornwall, than in any other part of England. They fly very high, and oftentimes in circles, and their voice is more shrill than that of a jackdaw. Their nests are formed on the ledges of the cliffs, or in the most inaccessible parts of ruins. The eggs are four or five in number, of a dingy white colour, marked with irregular dusky blotches. These birds feed principally on berries, worms, and insects: they are easily tamed, and, to the persons who are accustomed to feed them, become very docile and entertaining.

The Chough is about the size of the jackdaw, but of a more slender form. The bill is somewhat curved, and, as well as the legs, is red. The plumage is black, beautifully glossed over with blue and purple.

9. BIRD OF PARADISE TRIBE.

All the birds of this tribe are inhabitants only of countries bordering upon the equinoctial line. They

are chiefly found in the island of New Guinea. Their plumage is very brilliant and beautiful.

Greater Bird of Paradise. In the woods of New Guinea, these interesting and beautiful birds associate in large flocks, headed by a leader. They are on wing during the greatest part of the day, in pursuit of the larger species of moths and butterflies, on which they feed. Such is their power, and such their strength of wing, that the old naturalists have described them as being inhabitants only of the air; as living on dew, and never resting on the earth. And, to complete so absurd a notion, they were considered to be without legs, which the very extraordinary habits thus ascribed to them, had, indeed, rendered unnecessary. The fact is this, that the skins of these birds which are brought to Europe, generally have the legs cut off, as by no means corresponding with the elegant appearance of the plumage. In their flight, the Birds of Paradise make a noise not unlike that of starlings. When they alight it is usually on the highest trees. Of the mode in which they construct their nests, the number of their young, and their manner of rearing them, we are at present altogether ignorant. They are shot with blunt arrows, by the inhabitants of the countries which they frequent, and their skins are exported to India and Persia, and even into Europe, for the purpose of ornaments in dress.

The general colour of these birds is a light chesnut, having the under part of the neck gold-green. The feathers on the back and sides are considerably longer than the body; and the tail, as it is usually called, is nothing more than these long feathers. There are two long and bristly tail-feathers, which are straight, and taper towards the tip.

King Bird of Paradise. Unlike the last species, these birds are solitary, and never unite in flocks. They also prefer bushes and shrubs to high trees, and are more frequently to be found on those which produce red berries, than on any others. In the islands of the Indian Ocean, where they are principally found, the inhabitants catch them in a kind of snares, and export them, for the same uses to which the skins of the preceding species are applied.

Their length is from two to seven inches ; their general colour a chesnut purple. The belly is white, and the breast bluish, having a green gold band. There are two long thread-shaped, or filiform tail-feathers, which are feathered, and crescent-shaped at the extremity. The feathers under the wings are longer than the rest.

10. CUCKOO TRIBE.

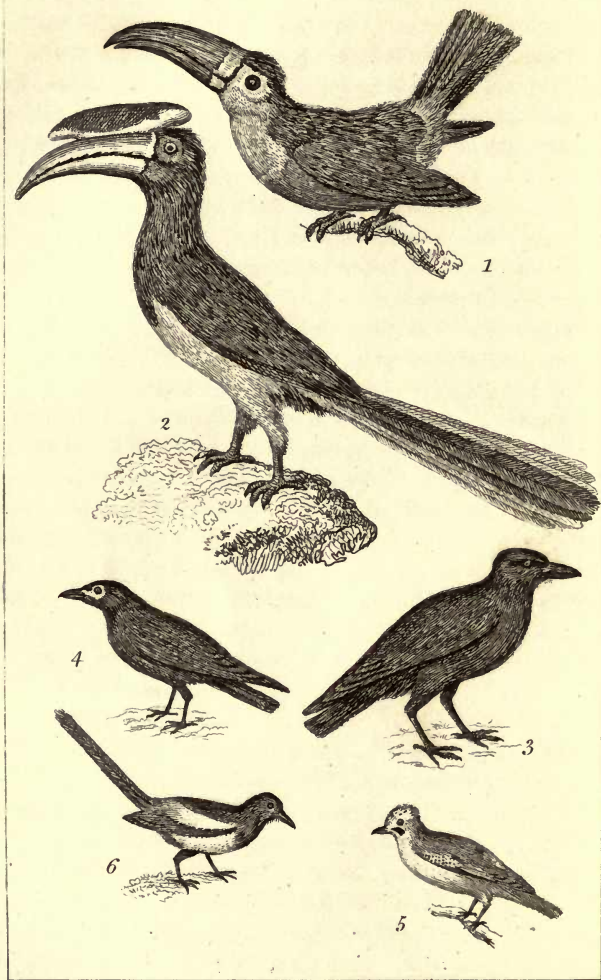
The species of Cuckoo are numerous ; but are much more common in hot, than in temperate or cold climates. They feed chiefly on insects. Only one species is found in this country.

Common Cuckoo. The peculiar note of the Cuckoo is very familiar to us, and, from a certain association of ideas, it is always pleasing, as it announces the return of that season in which all take delight. These birds seldom form any nest, but deposit their eggs in the nests of other birds, chiefly those of the hedge-sparrow, water-wagtail, tit-lark, yellow-hammer, green linnet, or the whinchat, and leave the whole future care of their offspring to their foster-parents. Nor is this done without injury to the birds ; for, as soon as the young Cuckoo has acquired sufficient strength, it never fails

to shoulder out all its minute companions, and thus obtains full possession of the nest. After it is hatched, it is fed by the foster-parent for about eight weeks, although it is nearly fledged in about half this time. Instances, however, have been known, of the Cuckoo hatching and rearing its own offspring, but these are very few. Cuckoos are migratory, quitting this country in the autumn, and returning at the commencement of the spring. They have sometimes been heard so early as the month of February, though their usual period of return is about the middle of April. About the beginning of July, they in some manner change their note, and make a stammering kind of noise. In a few instances, Cuckoos have been found in this country during the winter; but it is supposed that these must have been entirely accidental, and owing, probably, to their being young birds, which had not acquired sufficient strength to leave us at the usual period of migration. It is to be observed, that the male Cuckoos only are vocal, and that the females are silent. This is the reason of a singular circumstance, which has been remarked, that a great number more of males than females are shot. These birds may be reared and brought up tame, in which state they will become gentle and familiar. In some countries Cuckoos are esteemed a favourite food.

The Cuckoo is about fourteen inches in length. The upper parts of the plumage are of a dove-colour; and the under parts whitish, streaked across with brown. The throat is pale grey; and the vent feathers buff, marked with a few dusky spots. The tail is rounded, blackish, and dotted with white. The bill is black, strong, and somewhat curved; and the interior of the mouth is saffron-coloured. In the young birds, the whole body is brownish, mixed with ferruginous and black.





Red bellied Toucan 1. Abyssinian Hornbill 2. Raven 3. Rook 4. Jay 5. Magpie 6.

The Cuckoo. The circumstance most remarkable in the history of this species, is its mode of discovering to mankind the hives of wild bees. It is an inhabitant of the Cape of Good Hope, and several other parts of Africa. As soon as the Cuckoo has found a nest of bees, it utters a loud and continued cry, for the purpose, apparently, of exciting attention to its wants. If followed by any person, it flies on slowly, towards the place where the bees are; alighting, from time to time, in order to give opportunity for the person to come up. If the hive be in the cleft of a rock, in a hollow tree, or in some cavity of the earth, the Cuckoo will hover over the spot for a short time, after which it sits at a little distance, in expectation of the result, and with a view of receiving its share of the booty. When they have taken the nest, the bee-hunters generally leave a share of the comb, to supply the wants and repay the services of the bird. The Bee Cuckoo forms its nest in somewhat the shape of a bottle, suspending it from the branch of a tree. It is composed of slender filaments of bark, closely and intricately woven together, and has the opening downwards. This bird is so great a favourite with the inhabitants of the countries where it is found, that it is considered criminal to destroy it.

The Bee Cuckoo is about six inches long. It is somewhat lighter coloured than the common sparrow, but the general appearance of the plumage is nearly the same as in that bird. The under parts of the body are whitish. The eyelids are naked and black; and on each shoulder there is a yellow spot. The tail is wedge-shaped, and somewhat rust-coloured, mixed with white.

11. WOODPECKER TRIBE.

Woodpeckers are found in most countries, both of hot and cold climates. They subsist entirely on insects. Their nests are formed in holes of trees. Their tongue is long, horny, and somewhat barbed at the extremity.

Green Woodpecker. The ease with which these, and the other species of Woodpeckers, run up the perpendicular trunks of trees, is very remarkable. In this act, they pick insects out of the crevices of the bark, and search for such as are concealed betwixt the decayed and loose pieces of the bark and the wood. These they are able to reach, at the depth even of three or four inches, by darting out their tongue, and transfixing them upon its horny, sharp, and barbed extremity. Their beak is so powerful, that some of the species are able, by means of it, to perforate the bodies of the soundest trees. In this respect, Woodpeckers are considered to be very injurious to the owners of timber, as the rain having now access to the interior of the tree, it soon afterwards begins to decay. The tail-feathers of the Woodpeckers are so short and stiff, that they are of great use in steadying the birds, in the operation of digging holes in the trees. In these holes the females form their nests, and lay five or six eggs, which are of a beautiful semi-transparent white colour. The Green Woodpecker is a native of several parts of Europe, and is sufficiently common in all the wooded districts of the south of England. Its voice is a harsh, but not very unpleasing scream; and is said to be more frequently exerted before rainy weather, than at other times. The wings and tail of this bird are so short, that it flies by a kind of jerking motion.

It is about the size of the jay, and of a beautiful green colour, having the top of the head crimson. The quill-feathers are dusky, with whitish spots; and the tail is blackish, obscurely barred with green, and tipped with white. The temples are blackish. The bill and legs are dusky.

Great Spotted Woodpecker. This is a common species in England. We are informed, that in forming its holes it strikes against the trees with quicker and more forcible blows than the green Woodpecker. In running about upon the branches of trees, it is not easily seen, as it always endeavours to avoid the sight, by concealing itself on the side of the branch which is opposite to the observer.

In size, this Woodpecker is somewhat larger than a blackbird. Its body is variously marked with black and white. The crown of the head is of a deep glossy black, and, in the male, the hind part has a rich crimson spot. The throat and breast are of a yellowish or dusky white. The vent-feathers are of a light crimson. The quill-feathers of the wings are black, elegantly marked on each web with round white spots.

12. WRYNECK TRIBE.

There is only one species of Wryneck. It is a native of various parts of Europe, of several of the northern districts of Asia, and is found in most parts of England.

Common Wryneck. In many of its habits, this bird resembles the woodpeckers. Its tongue is long, and capable of being darted to a considerable distance out of the mouth, for the purpose of seizing upon its insect

prey. Its bill, however, is so slender, that it is not able, like those birds, to peck holes in any wood except such as is in a decayed state. The name of Wryneck has been derived from the very singular contortions which it makes of its head and neck, especially when terrified. These it is able to move as far as the shoulders; and, when the bird is sitting upon her eggs, or with her young ones, in the hole of a tree, the motions she thus makes, added to her speckled colour, give her so much the appearance, at first sight, of the head and front parts of a serpent, that almost all animals would be intimidated, and prevented from attempting to seize her. The eggs of these birds are white, and have so thin a shell, that the yolk may be seen through it. The nest is formed of dry grass; and the young ones are sometimes nine and upwards, in number. Wrynecks are solitary birds. About the month of September they retire from this country, and do not return until towards the latter end of March. Their voice is a quickly-repeated squeak, not much unlike that of the kestrel.

This bird is somewhat larger than a lark. Its plumage is marked with different shades of brown, very elegantly blended together. The belly is of a reddish-white colour marked with blackish spots. The tail-feathers are waved with black spots, streaks, and bars. The bill is roundish and slightly curved. The tongue is long, slender, and sharp and hard at the point.

13. KINGFISHER TRIBE.

The birds which compose the present tribe are dispersed over nearly all the countries of the globe. They form their nests in the banks of rivers, lakes, or streams, and subsist principally on fish.



*Great Bird of Paradise 1. Cuckoo 2. Spotted Woodpecker 3.
Wryneck 4. Comⁿ. Kingfisher 5.*



Common Kingfisher. In brilliancy and variety of colours, no bird which is found in our island can vie with the Kingfisher. It lives entirely on small fish, which it takes with inimitable skill. In places where these are swimming near the surface of the water, it hovers for a few moments over the spot, then, making a sudden dart at them, seldom fails to make good its seizure; and this operation it repeats, until its hunger is completely satiated. While thus suspended, its dazzling colours, particularly when the sun shines strong upon it, appear in the greatest brilliancy. This extraordinary beauty probably gave rise to the fables which have been related of this bird, under the name of *Halcyon*. It was believed to build its nest on the water, in tranquil seasons; and hence the ancient poets have employed the term, "halcyon days," to denote a state of peace and tranquillity. This bird frequents the banks of rivers and streams, forming its nest in a hole in the earth, which it either forms or finds, near the water's edge. The nest is generally at the depth of half a yard, or upwards, from the entrance. The eggs are of a transparent white colour, and it is said, that, during incubation, the female seldom leaves them, but is fed by the male. As soon as they are hatched, the young ones are very voracious, and are regularly fed with fish, by their parents.

These birds are about the size of a sparrow. Their head and bill appear very large in proportion to the dimensions of their body. The latter is nearly two inches in length, blackish towards the extremity, and yellow about the base of the lower mandible. The top of the head, and the sides of the body, are of a dark green colour, marked with transverse spots of blue. The tail is short, and of a rich blue colour. The other parts of the

body are chiefly of a reddish-yellow colour. The legs are red.

Crab-eating Kingfisher. The present species are found in Senegal and the Cape de Verd Islands. It is remarkable for subsisting almost wholly on different species of crabs, with which it sometimes quite fills its hole.

It is about twelve inches in length. The tail is long, and the plumage blue green above, and tawny beneath. A black band extends from the eyes backward. The tail is long, and the wing-coverts, and tips of the quill-feathers, are black. The bill and legs are of a ferruginous red colour.

14. HOOPOE TRIBE.

The Hoopoes feed on insects and their grubs, and particularly on those of the different kinds of beetles. It is stated that they delight in frequenting dunghills, and other nauseous places.

Common Hoopoe. This rare visitant of our islands is found in various parts of the continent of Europe, as well as of Africa and Asia. Beautiful as it is in its plumage, it feeds chiefly on those insects which are found in putrid animal bodies, and the most nauseous and disgusting substances. It lays its eggs, which are generally from two to four in number, in hollow trees, sometimes in holes of walls, or even on the ground. And, from the putrid remains of the food with which it supplies its young, the nest becomes excessively fetid and offensive. Hoopoes are, for the most part, solitary birds, more than two of them being seldom seen together. When surprised or irritated, they erect their crest and tail, and thus strut

about in a very pleasing manner. Mr. Pennant informs us, that the Turks call this the messenger-bird, from the resemblance which its crest has to the plumes worn by the Turkish couriers; that the country people in Sweden consider its appearance as ominous of war; and that, in our own country, it was formerly esteemed the forerunner of some great calamity.

The Hoopoe is about twelve inches in length, and has, on the top of its head, a beautiful crest, the feathers of which are an inch and upwards in height, and capable of being erected and depressed at pleasure. This crest is of a pale orange-colour, having each feather tipped with black. The plumage is variegated on the upper parts, with blackish and rufous white. The upper parts are reddish-white; and the tail is black, with a white bar. The bill is about two inches long, slender, somewhat curved, and black. The legs also are black.

15. CREEPER TRIBE.

The species of Creeper are very numerous, and are found in most countries of the world; but only one of them is a native of the British Islands. They feed on insects.

Common Creeper. Running about with the greatest facility, upon the small branches of trees, in pursuit of its insect prey, this diminutive bird is extremely difficult to be seen; not only from the darkness of its colours, but also from its studiously concealing itself from observation, by escaping to the opposite side of the branch. Its nest is formed in holes of decayed trees. Here it lays from five to seven eggs, which are of an ash-colour, marked at the end with spots of a deeper hue. It is a native of various parts of Europe, Asia, and America.

It is about the size of a wren. Its head, and the upper parts of the neck, are brown, streaked with black. The rump is tawny; the under parts of the body are white; the quill-feathers are brown, ten of them tipped with white. The remainder of the plumage is a mixed grey. The tail is long. The bill is hooked and slender.

16. HUMMING-BIRD TRIBE.

The Humming-birds are found chiefly in the tropical districts of America, and in the West India Islands. They subsist on the nectar of flowers, and on small insects. It is from the humming noise which they make with their wings, during flight, that their name is derived.

Least Humming-Bird. This is the smallest of all the known species of birds, measuring scarcely more than an inch in its whole length, and not exceeding the twentieth part of an ounce in weight. It feeds on the nectarous juices of flowers. These it enters with surprising agility, and does not leave until it has rifled them of all their sweets. Its nest is formed externally of moss, and lined with the finest particles of cotton. The eggs are so diminutive, as scarcely to be larger than the grains of coriander, and are of a dirty white colour.

These birds are natives of South America, and some of the West India Islands. The head and upper parts of the body are of a golden green colour, changeable according to the lights in which they are viewed. The wings are of a violet-brown; and the tail-feathers are bluish black, the lateral ones white on the outer edge. The under parts of the body are whitish. The bill is extremely small and slender, and, as well as the legs, is blackish.



Hoopoe 1. Creeper 2. Humming Bird 3. Starling 4. Thrush 5.

Red-throated Humming-Bird. Multitudes of these beautiful little birds issue forth at the rising of the sun, and flutter about the flowers, flying with a rapidity so great, that the eye is scarcely able to follow their course. And the motion of their wings is such, as to be imperceptible to the nicest observer. They feed whilst on wing, and flit from flower to flower, extracting the honey from each as they pass. It is said to be extremely amusing to see them swarming round the flowers, and trying every tube with their slender bills. When they find a flower has been robbed of its juices, they will sometimes pluck it off in a rage, and throw it on the ground. They are excessively passionate, and frequently fight each other with the greatest fury. Their nest is round, and very small, interwoven on the outside with moss, and, in the interior, with the softest vegetable down imaginable. The eggs are white, and each about the size of a pea.

This bird is about three inches in length. The male and female differ much in appearance. The former is of a green gold colour, with a changeable copper gloss on the upper parts. The tail-feathers are dark brown, the three side ones rusty, tipped with white. The throat is flame-coloured, and the under parts of the body are grey. The female is brownish; the throat marked with a few dusky spots, and the belly whitish. The Red-throated Humming-Birds are found in America, and as far north as some parts of Canada.

ORDER III. PASSERINE BIRDS.

17. STARE TRIBE.

The greater part of these birds feed on insects and worms, but a few of them subsist on fish. There are about twenty known species, of which only two are found in our island.

Starling. Few birds are more common in this country, especially during the winter-season, than the Starlings. They usually build their nests about the month of May, in the holes of ruins, in pigeon-houses, or trees. This nest is formed of straw, fibres of roots, and down; and the eggs, four or five in number, are of a pale greenish colour. These birds have a strong and powerful voice, and may be instructed to whistle several tunes, and even to imitate the human voice. They collect together and fly in large flocks; and usually feed on insects and worms. Their bill is yellowish, and the body black, with white dots.

18. THRUSH TRIBE.

The Thrushes feed chiefly on berries and other kinds of fruit. The species are very numerous, and several of them have a melodious song.

Song-Thrush, or Throstle. This is one of the most delightful of our rural songsters, enlivening the woods and groves, during the spring and summer seasons, with its melodious notes. In the sweetness and variety of its

tones it is exceeded by few of the British birds. The Thrush breeds in the spring, having young ones sometimes as early as the beginning of April. The nest is usually found in some low bush or thicket, and formed of earth, moss, and straws, having the inside curiously plaistered with clay. The eggs are of a pale bluish-green colour, marked sparingly with black spots.

The length of the Thrush is about nine inches. The back is of a brown colour, and the neck spotted with white. The inner coverts of the wings are yellow.

Fieldfare. The Fieldfare is only a partial visitant of this country. It breeds principally in Sweden and Norway, and, as soon as the frosts set in throughout those northern regions, great flocks of these birds migrate southward. They usually arrive in England during the month of October, and leave us about the end of February or beginning of March. During this season they feed on divers kinds of wild berries, but chiefly on those of the hawthorn, rose, and holly.

The head and rump are of a cinereous olive colour, spotted with black. The back and greater coverts of the wings are of a deep chesnut. The tail feathers are black, the two middle ones and the interior sides of the outer ones, excepted, the former of which are cinereous, and the latter white. The bill is yellowish, tipped with black; and the legs are black.

Blackbird. From the strength and melodiousness of its notes, the Blackbird is a great favourite with those who delight in the wild music of the woods. It commences its vocal strains in the very earliest part of spring, and usually continues them until the setting in of winter.

It constructs its nest in thick bushes, and in a very artificial and pleasing manner. The outside is formed of moss, slender twigs, dried grass, and the fibres of roots, strongly cemented together with clay. The inside is plaistered with earth, and afterwards lined with soft and dry moss. The eggs are of a bluish-green colour, with dusky spots. These birds feed on insects, worms, and snails. They do not collect in flocks, like many others of their tribe.

When full grown their plumage is of a deep black colour; and their bill and eyelids are yellow.

19. GROSBEAK TIB E.

From the thickness and strength of their bills, the Grosbeaks are able, with great ease, to break in pieces and shell the different kinds of seeds on which they feed. They build their nests in bushes and trees.

Crossbill. These birds breed in various parts of the continent of Europe, as well as in Asia and America. Large flocks of them sometimes, though rarely, arrive in this country; and so unalarmed are they at the approach of mankind, that I have seen several which had been caught by a snare in the simplest manner imaginable. They feed chiefly on the seeds of the pine or fir, which they extract from the cones, by means of their bill, in a very dexterous manner. And it is said, that they are able to divide an apple, in order to get at the pips or kernels in the centre, by a single stroke of their bill. If caught and kept in a cage, they almost immediately become tame.

They are somewhat larger than a lark. The mandibles of their bill cross each other. The plumage varies in

colour, but the males are usually reddish, varied with brown or green; and the females are somewhat of an olive-green.

Bullfinch. The name of these birds has been derived from their large and thick head and bill. Bullfinches are inhabitants of nearly all parts of Europe. They frequent gardens in the spring of the year, and are believed to do much damage, by picking off and eating the young bloom-buds of the fruit-trees; but it is more than probable, that they chiefly select those which have been perforated by, and contain insects. They breed rather late in the spring, seldom having young ones before the end of May, or beginning of June. They prefer, for the place of their nest, an orchard, wood, or park, where there are many trees. The nest is of the simplest construction possible, and seldom has more than five eggs, which are of a bluish colour, marked, at the large end, with dark brown and faint reddish spots. The Bullfinch, when properly trained, is remarkably docile, and may be instructed to whistle almost any simple tune. He will come when called, and, perching on his master's shoulder at command, will there go through his lesson. He may likewise be taught to speak.

The bill of this bird is black, short, and very thick. The neck and back are ash-coloured. The head and tail are black, as are also the wings, except the upper coverts, which, with the rump, are white. The Bullfinch is a very common bird throughout Europe.

Greenfinch. Greenfinches were formerly in request, not so much as singing-birds, as for ringing bells in a cage contrived for the purpose. If, however, they are

properly trained, they readily imitate the song of other birds. In the beginning of winter they collect in flocks, and are easily caught. Their nest is usually formed of hay, straws, and grass, on the outside; and lined with feathers, hair, and wool. The eggs are five or six in number, of a light green colour, with small reddish spots, particularly at the thicker end.

The general colour of the plumage is yellowish-green. The outer quill-feathers of the wings are edged with yellow. The exterior webs of the four outmost feathers, on both sides of the tail, are yellow. The tail is forked, the bill brownish, and the legs flesh-coloured.

Sociable Grosbeak. The nests of these birds are very remarkable. They are formed sometimes to the number of eight hundred or a thousand in one tree, and so arranged together as to give the general appearance of a thatched roof. "The industry of the Sociable Grosbeaks," says Mr. Paterson, the African traveller, "seems almost equal to that of the bee. Throughout the day they appear to be busily employed in carrying a fine species of grass, which is the principal material they employ for erecting this extraordinary work, as well as for additions and repairs." They evidently add to their mass of nests every year, as their numbers increase, until some of the trees positively bend under the weight, and the boughs of others are completely covered over. Mr. Paterson had the curiosity to break down one of the deserted collections of nests, for the purpose of examining its structure. "There were," he says, "many entrances, each of which formed a kind of regular street, with nests on each side, at the distance of about two inches from each other." These birds feed on seeds and insects.

In size they are considerably smaller than our sparrow, are of a reddish-brown colour above, and yellowish beneath. The bill and forehead are black. The tail is short.

20. BUNTING TRIBE.

The species of Bunting are very numerous. They are inhabitants chiefly of temperate and cold climates, associate occasionally in flocks, and feed on seeds.

Yellow Hammer. The song of the Yellow Hammer is very pleasing, and its plumage is not otherwise than pretty. These birds are common in almost all parts of Europe, but particularly in England. They feed principally on grain, seeds, and worms; and build their nests upon the ground, usually near the side of some pond, river, or brook. The materials consist of moss, dried grass, and roots, interwoven with horse-hair. The eggs, which are generally about six in number, are of a white colour, veined, or scribbled, with dark purple or black. About the beginning of May the young ones are nearly fledged.

The head, throat, and belly, are yellow, deeper in the male than the female. The breast is reddish. The greater quill-feathers are dusky, edged with pale yellow. The tail is dusky, except the outermost feathers, which are white, and somewhat forked. The bill is dusky; and the legs are yellowish brown.

Ortolan. Few birds are in such esteem among the epicures of the continent, as the Ortolans. They feed on seeds, and become excessively fat. They are caught in their migrations from one country to another, and

are afterwards kept alive and fed for the use of the table. Their nests are formed in bushes, or low hedges; and they have two broods in the course of the summer, each consisting of four or five young ones. These birds are not found in any part of the British Islands. Their song is pleasant, and they are sometimes kept in cages, as singing-birds.

The head and neck are of a cinereous olive colour; and the feathers of the back and the scapulars are brownish-bay, black in the middle. The chin is yellowish, surrounded with a cinereous line. The under parts of the body are reddish. The quill-feathers are brown, the three first whitish at the edges. The tail-feathers are brown, and the two lateral ones black on the outer side.

21. FINCH TRIBE.

The Finches are a numerous and active race, dispersed very widely over the world. They feed principally on insects and grain.

Chaffinch. This is a well-known bird in every part of our island. In winter the females collect together in vast numbers, with scarcely any males among them. Their song is pleasing, and, in a cage, is usually continued through nearly nine months of the year. They have young ones about the beginning of May. The nest is elegantly formed of green moss, small sticks, withered grass, and hair, on the outside; and the inside lined with feathers, hair, and wool. The female usually lays four eggs, which are of a whitish colour, with a few large reddish-brown spots, and some small specks and streaks towards the larger end.

Goldfinch. The song of the Goldfinch, and the general beauty of its plumage, as well as the mildness, docility, and gentleness of its nature, have rendered it a great favourite. These birds become tame almost immediately after they are caught, and may be trained to perform several entertaining tricks. After being some time confined, if well fed and attended, they will not seek to escape from their cage, but, if permitted to go out, will always fly to it as a place of shelter and security. Goldfinches associate in flocks at a certain season of the year, and feed chiefly on seeds. Their nest is an extremely beautiful and interesting structure, compactly formed of fine moss of different kinds, with bents on the outside; and lined first with wool and hair, and in the inside of these with down and other soft materials. This nest is generally found in an apple, pear, or plum-tree. The eggs are white, marked with deep purple spots at the large end.

Canary Bird. Formerly these birds were imported in great numbers from the continent every year: the chief part of them from the Tyrol. Their habits are, at this time, so completely artificial in England, that the natural notes of the bird are scarcely known. Several of those that we possess have been educated under parents, the progenitors of which had been instructed by a nightingale: many have, however, more of the titlark's than the nightingale's notes. Several will begin with the notes of a nightingale, go on for a considerable while, and then end in the song of the titlark. Others will begin like the skylark, and end like the nightingale. Many persons are delighted with their song, but it is generally so powerful, as, when in a room, almost to deafen the hearer. These birds will

breed three or four times in the year; and so expeditious are they in forming their nest, that they have been known to begin and finish it in the course of twenty-four hours: it, however, usually occupies about four days. Canary Birds are by no means devoid of sagacity. We are told of one, some years ago exhibited in London, that had been taught to pick up the letters of the alphabet at command, so as to spell the name of any person in company. And this was so conducted, by motions from its master, that the mode was totally imperceptible to the company.

Common Linnet. This is one of the most pleasing of the rural choir. Its song is peculiarly soft and delicate; and so correct is its faculty of hearing, that it will, without difficulty, assume the notes of almost any other small bird. It feeds on seeds, which it generally peels before it eats. Its favourite food is the seed of flax, from the Latin name of which, (*Linum*,) its appellation of Linnet is derived. These birds breed in hedges, or furze, forming a small nest, which they line in the inside with wool, hair, and the finest down. The female lays four or five eggs, of a white colour, marked with fine red specks.

Common Sparrow. No bird is more pert, impudent, and familiar, than the sparrow. Heedless entirely of the presence of mankind, it is to be seen even in the streets of London, picking up its food almost from beneath the horses' feet. Sparrows breed early in the spring, forming their nests under the eaves of houses, in holes of walls, sometimes in trees, and not unfrequently in the bottoms of rook's nests. A very pleasing instance of instinct in the Sparrow was men-

tioned to me about a year ago, upon good authority. One of these birds was remarked to fly several times, with food in her mouth, into a hole in an old wall. The curiosity of the person who observed it was excited to ascertain the cause, as it was in the month of January, and, consequently, at a time when the bird could not have young. Ascending to the place with a ladder, he found there a full-grown Sparrow, of the breed of the preceding summer. It had been accidentally entangled by one leg, in such a manner as to prevent its escape; and, thus fettered, the parent birds had not forsaken their unfortunate offspring, but had continued to feed and support it, in its confinement, even for so many months after the other individuals of the same brood had taken flight.

22. FLY-CATCHER TRIBE.

All the birds of this tribe feed on insects, chiefly on flies. The greater part of them are inhabitants of hot climates.

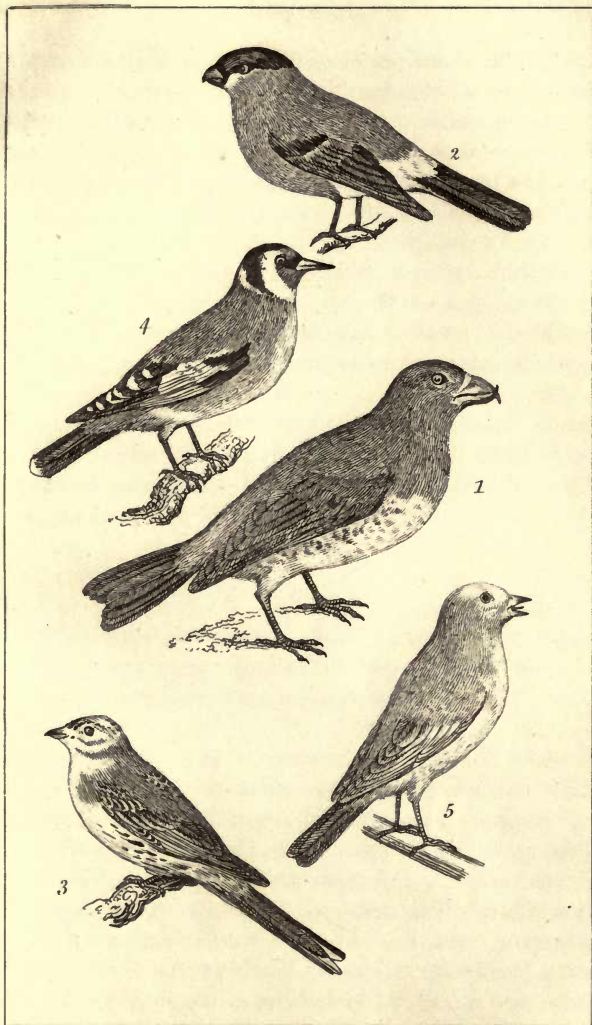
Spotted Fly-catcher. It is generally said, that the Spotted Fly-catcher has no song; but this is not true, as its warble is very pleasing, and somewhat betwixt the notes of the wagtail and the golden-crested wren. This is a bird of passage, appearing in the spring of the year, and retiring about the month of September. It subsists on insects, (which, like the swallow, it catches whilst on wing,) and also on the soft and pulpy kinds of fruit. It forms its nest sometimes in trees, sometimes in a vine or sweet-briar, against the wall of a house, or on the end of a beam, and constantly returns, year after year, to the same place to breed.

This bird is about five inches in length. Its upper parts are of a light brown colour, the neck is longitudinally spotted with black. The wings and tail are nearly black, the former edged with white. The throat, vent, sides, and under part of the wings, are tinged with red. The bill is dusky, and the legs are black.

23. LARK TRIBE.

There are about thirty-one known species of Larks, of which nine are found in Great Britain. Most of them form their nests on the ground. They feed on insects.

Skylark. The warbling of the Lark, whilst it soars into, and hovers in the air, inspires every hearer with delight. Often does it elevate itself even among the clouds, and its voice is distinctly heard, whilst the bird itself is almost imperceptible to human vision. Its nest is formed on the ground, and rudely constructed, of a few bents and horse-hair, in some hole made by the impression of a horse's hoof, by a cart-wheel, or under the brink of some sheltering turf. The eggs are four or five in number, of a brownish colour, and closely marked with brownish specks.—These birds are in great request for the table, and during the winter season immense numbers are caught by means of clap nets. Mr. Pennant informs us, that, in the neighbourhood of Dunstable, more than 4,000 dozen have been caught for the supply of the London markets, betwixt the middle of September and the middle of February. It is to be observed, respecting the Skylark, that, from the great length of the hinder claw, it is unable to perch on hedges and trees, in the manner of other small birds.



*Grosbeak 1. Bullfinch 2. Yellow Hammer 3. Goldfinch 4.
Canary Bird 5.*



Woodlark. The song of the Woodlark is almost universally admired, and is heard not only in the daytime but sometimes also during the night. It has been compared with that of the nightingale, and, in some respects, is equally pleasing. Like the skylark, it sings as it flies. These birds build their nest on the ground, the outside being composed of moss, and the inside lined with dried bents and a few hairs. The female lays five dusky eggs, which are of a pale bloom or rose colour, beautifully mottled and clouded with red and yellow. The Woodlark perches on trees, and feeds chiefly on insects, worms, and seeds.

The chief difference betwixt the Woodlark and skylark consists in the latter being somewhat smaller, and having the head surrounded by a whitish kind of fillet, which reaches from one eye to the other.

24. WARBLER TRIBE.

The greater part of these birds have a very melodious and pleasing song. Several of them migrate from one country to another at stated seasons.

Nightingale. It is universally allowed that the Nightingale is the most excellent of all the British songsters. In mellowness, plaintiveness, compass, and execution, it is superior to all others; but in sprightliness it is exceeded by the skylark, the linnet, and the goldfinch. Its powers of imitation are also so great, that it can modulate its voice to any key. And it has been remarked, that if any person near it whistle a note, the Nightingale will immediately try, in its own strain, a unison with it. The Nightingale, although it also sings in the course of the day, generally commences its

song in the evening, and continues it through the whole night. These birds usually leave us about the middle of September, for the purpose, as it is supposed, of migrating into Asia; and return in the month of April. If kept in cages, they will continue their song for seven or eight months in the year, from the beginning of November until midsummer. Nightingales build their nests in low, thick hedges, a little above the ground, and most frequently where briars, thorns, and bushes grow thick. The nest is formed of leaves, straws, and moss. The eggs are of a brown or nutmeg colour. The Nightingale is said not to be found in Devonshire, Cornwall, or North Wales; nor in any of the northern counties of England, except Yorkshire, to some parts of which it occasionally migrates.

The colours of these birds are plain and unattractive: the upper parts of the plumage are of a rusty brown colour, tinged with olive; and the under parts of a pale ash colour, almost white at the throat and belly.

Common Wagtail. Wagtails are constantly seen running about near the shallow water of ponds, rivers, and brooks, for the purpose of picking up insects and worms. They are also constant attendants upon the plough, for the sake of the worms which are thrown up by that instrument. Their tail is very long, and is in constant motion. The nest of the wagtail is built upon the ground, composed, externally, of moss, grass, and roots, and lined with hair and feathers. The female lays five whitish eggs, marked with small spots of different shades of brown, particularly towards the larger end.

Wheatear. These birds annually arrive upon the extensive downs in the south of England, about the middle of March. The females come by themselves, and about a fortnight before the males. They breed in holes in the ground, forming their nest of dried grass, rabbit's down, feathers, and horse-hair, and laying from six to eight small, bluish eggs. The number of the Wheatears is such, that in the neighbourhood of Eastbourne, in Sussex, nearly two thousand dozen have been caught in one season, by means of snares made of horse-hair, and placed under a long turf. In the autumn, and particularly if the season is rainy, they become very fat. This, no doubt, is owing to the insects and worms, on which they feed, being, in such seasons, more numerous than in continued dry weather. They are nearly as much esteemed for the table, in this country, as the greatly-boasted ortolans are on the continent. They usually leave us in the month of August, or September.

In the male, which is about five inches and a half in length, the head and back are of a hoary colour, tinged with red. Over each eye there is a white line, and beneath that, a broad, black mark. The belly, the rump, and base of the tail, are white; the remainder of the tail is black. The wings are dark-coloured. The colours of the female are more dull; and this sex is destitute of the black mark across the eyes.

Redbreast. During the winter season, when there is a scarcity of food abroad, the Redbreasts approach our habitations, and, in severe weather, will seek for refuge and shelter even in our houses. They are sociable and familiar birds, and, from their harmless disposition and manners, are almost held sacred; at least, they are much less persecuted than any other of the feathered race.

They feed chiefly on insects and worms. Their song is commonly heard in the winter, and, in plaintiveness, compass, and execution, is equal to that of many of our most admired songsters. The Redbreast has its nest, generally, in some barn or out-house. It is formed, externally, of coarse materials, and lined with horse-hairs. The eggs are of a cream-colour, sprinkled all over with fine reddish yellow spots, particularly towards the blunt end, where these spots are so numerous, as almost to appear in a mass.

Hedge-Sparrow. The notes of the Hedge-Sparrow are extremely pleasing. This, which is one of the most common of our birds, frequents hedges and fields, and forms its nest in some low bush, with moss, wool, and hair. The eggs are five in number, of a pale blue colour. These are hatched about the end of April, or beginning of May.

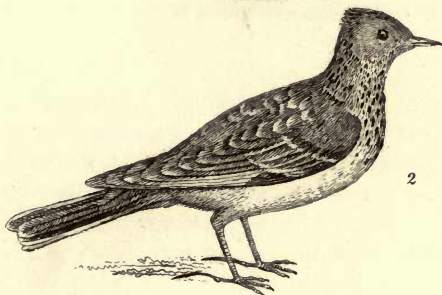
Blackcap. In gardens and orchards, these diminutive birds are generally to be seen, in considerable numbers, from the beginning of May until about the middle of September. Their notes are full, sweet, deep, loud, and of great compass; hence they have acquired the name of *Mock Nightingale*. They feed on insects, and construct their nests near the ground, laying five eggs, of a pale reddish-brown, sprinkled with spots of a darker colour.

Wren. This is an interesting little bird. It is commonly to be seen hopping about the bottoms of hedges, where sometimes it has the appearance of a mouse. It is not able to make long flights, and, if driven from the hedges, is easily run down. The Wren is to be ranked





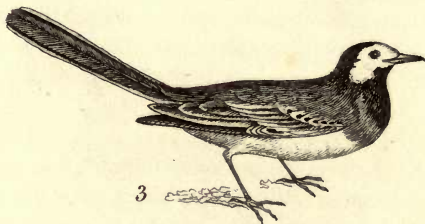
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Fly catcher 1. Skylark 2. Wagtail 3. Wren 4.

among the most pleasing of the British singing-birds; and with this additional merit, that it is heard through the greatest part of the winter. Its nest is a curious structure, of an oval shape, with a small hole for entrance on one side, composed of moss on the outside, and lined with hair and feathers. The eggs are frequently fifteen or sixteen in number, small, of a white colour, sprinkled over with small pale red spots. The place in which the nest is usually formed, is near stables or outhouses, or in hedges or woods.

25. SWALLOW TRIBE.

The birds which compose the present tribe, chiefly frequent moist and watery places, and skim about near the surface, in search of insects, which they catch whilst on wing with great dexterity.

Chimney Swallow. These birds are well known throughout almost the whole habitable world. Of a slight frame of body, but furnished with long and powerful wings, they are able to sustain themselves in flight for hours together. This is the more necessary, as all their food is caught whilst they are on wing; and also as about the beginning of October they migrate from this country, for the purpose of passing the winter in some hot climate. They return in the early part of the year, and are the harbingers of the spring. Soon after its arrival, the Swallow commences the operation of forming its nest, which is usually done in the inside of a chimney, a few feet from the top. The nest is composed of mud, mixed up with straw and hair, for the purpose of making it adhere, and lined with feathers. The eggs are of a white colour, speckled with red.

These are generally five in number, but, if one be taken away every day, the bird, it is said, will successively lay as many as eighteen or nineteen. Swallows feed on insects only.

The common Swallow is immediately distinguishable from all the other English species, even in flight, by its long and forked tail, and its body being dark-coloured above, and whitish beneath.

House Martin. In its general habits, the Martin resembles the swallow, in almost every respect, except the construction of its nest, which is generally formed under the eaves of buildings. Its composition is of clay or loam, tempered, and wrought together with little pieces of straw or hay, so as to render it tenacious; and it has a small hole at the side, for entrance. The eggs are white. These birds arrive in England about the 16th of April, and usually leave us in the beginning of October.

The tail of the Martin is by no means so long or forked as that of the swallow; and this bird is distinguishable on wing, by this circumstance, by the patch of white on the lower part of its back, and its white belly.

Sand Martin. The nests of the Sand Martins are formed at the bottom of deep holes, which they contrive to dig in the perpendicular sides of sand-pits. The nest itself is a simple structure, of hay, straw, and other strong materials, and lined with feathers. The eggs are white, and five or six in number.

The body of the Sand Martin is of a brownish or cinereous colour, and the chin and belly are white. The throat is encircled with a mouse-coloured ring.

Swift, or Black Martin. The Swift is more constantly on wing than any other of the Swallow tribe in our island, and is readily known by its large size, its great extent of wing, the uniformly dark colour of its body, except the chin, which is white, and by the continued loud and screaming noise which it makes. The legs of the Swift are so short, that it is not able, without difficulty, to raise itself from the ground. It usually rests by clinging against the sides of walls, or alighting on the pointed roofs of buildings. It breeds under the eaves of houses, in steeples, and other lofty edifices; and seldom lays more than two eggs, which are of a white colour. Swifts seem to delight in sultry weather, and fly at such times, in small parties, with peculiar strength and rapidity.

26. PIGEON TRIBE.

The Pigeons form a connecting link betwixt the passerine birds and poultry. During the breeding season they associate in pairs. Their voice is termed cooing.

Stock-Dove, and Common Pigeon. These are the same bird in its wild and its domestic state; the Stock-Dove, as its name implies, being the original *stock* or *stem*, from which all the domestic kinds originated. There is, in the simple and innocent manners of these birds, something extremely pleasing, something which gives us an idea of meekness and gentleness, beyond any other of the feathered tribes. We are informed, that the Romans were the first who instructed the inhabitants of our islands to construct pigeon-houses, and to render these birds subservient to their appetites. The Stock-Dove builds its nest in holes of rocks, or the hollows of trees; and not, like the Ring-

Dove, on the branches. In a domestic state, the Pigeon breeds eight or nine times in the year; and it has been observed, that though only two eggs are laid each time, the increase of the species is so rapid and prodigious, that, at the expiration of four years, the produce and descendants of a single pair might amount to nearly fifteen thousand. The male and female sit by turns upon the eggs, and each of them is employed in collecting subsistence for, and in feeding, their callow young. These birds are gregarious, or collect into flocks; and their voice is a plaintive, but, at the same time, soft and pleasing sound.

Ring-Dove. These birds delight in thick and impenetrable woods; building their nests upon the trees, and principally of dried sticks and grass. They assemble in flocks at the commencement of winter, but separate into pairs during the breeding-season, when they begin to utter their cooing noise.

The Ring-Dove is the largest of all the English pigeons. It is distinguished from the other species, by being of a cinereous colour; having its tail-feathers blackish towards the extremity; the quill-feathers of the wings whitish on the outer edge; and a white and somewhat crescent-shaped mark on each side of the neck.

Turtle Dove. The mutual attachment of the male and female of this species is such, that if a pair of them be put together into a cage, and one of them die, it is said the other will never long survive. It is from this circumstance, that they have become proverbial for conjugal affection. They are of a shy and retired disposition, breeding in the midst of woods, and, for this operation, selecting the most secluded situations. In England, they



Swallow 1. Turtle Dove 2. Peacock 3. Pheasant 4.



are chiefly found in Buckinghamshire, Gloucestershire, Shropshire, and some of the western counties. They are natives of other parts of Europe, and are found also in India and China.

They are of small size, and have their tail-feathers tipped with white. Their back is gray, and the breast somewhat flesh-coloured. On each side of the neck there is a spot of black feathers, tipped with white.

ORDER IV. GALLINACEOUS BIRDS.

27. TURKEY TRIBE.

There are only two known species of Turkey, one of which is found in America, and the other in India. They feed on acorns, and different kinds of fruit, and also on insects.

Common Turkey. In a wild state, the Turkey is found in the woods of Canada, roosting on the highest trees during the night, and issuing forth in the daytime, for the purpose of feeding on acorns and other fruit. The Indians are partial to the sport of hunting these birds, which they do with dogs and poles. Turkeys were first brought into England in the reign of king Henry the Eighth; and they have now for many years been ranked amongst the most profitable of our domestic poultry. When at full growth, they are strong and powerful birds. And the male, in particular, sometimes assumes a very formidable aspect. He erects his tail, bristles up his fea-

thers, and appears eager to fly at any creature which seems desirous to avoid him ; but the moment any signs of resistance are shown, he retreats. It has been well observed, that this bird is a strong image of a bully, in whom cowardice and pride are each so greatly predominant ; for, immediately after accomplishing any of his petty insults, he returns to his train, displays his plumage, struts about the yard, and makes his gobbling noise of self-congratulation. These birds are extremely irascible, and have a peculiar aversion to everything which is of a red colour. The female lays eighteen or twenty eggs, which are somewhat larger than those of the goose. Turkeys are now chiefly bred in the counties of Norfolk and Suffolk, from whence they are frequently driven to the London markets, in flocks consisting of some hundreds. In doing this, the attendants employ only a long stick, having a bit of red rag at the end.

28. PEACOCK TRIBE.

Of four species of Peacocks which are hitherto known, one, the common kind, is found in Asia and Africa, another in China, a third in Thibet, and the fourth in Japan. They feed on insects, fruit, and grain.

Common Peacock. This is undoubtedly the most beautiful of all birds ; and when his train is fully expanded, it is scarcely possible to figure to the mind any animal production which is more magnificent. He has, however, a harsh and very peculiar cry, which to many persons is grating and unpleasant. Peacocks have been known in Europe ever since the time of Alexander the Great ; and they have long been domesticated in Britain. Their flesh was formerly in great esteem as food : among the Romans

it was in such repute, as to be admitted to the tables only of the highest classes. These birds feed on corn of all kinds. The flowers of the alder are said to be a deadly poison to them. The females lay five or six eggs, and usually in some sequestered place. The incubation occupies about twenty-eight days; and the young birds acquire their perfect plumage in the third year. Peacocks are found wild in several parts of Asia and Africa. The largest and finest birds are stated to be those which inhabit the shores of the river Ganges, in the East Indies. The Pea-hen is entirely devoid of the beautiful train which forms so conspicuous an ornament in the other sex.

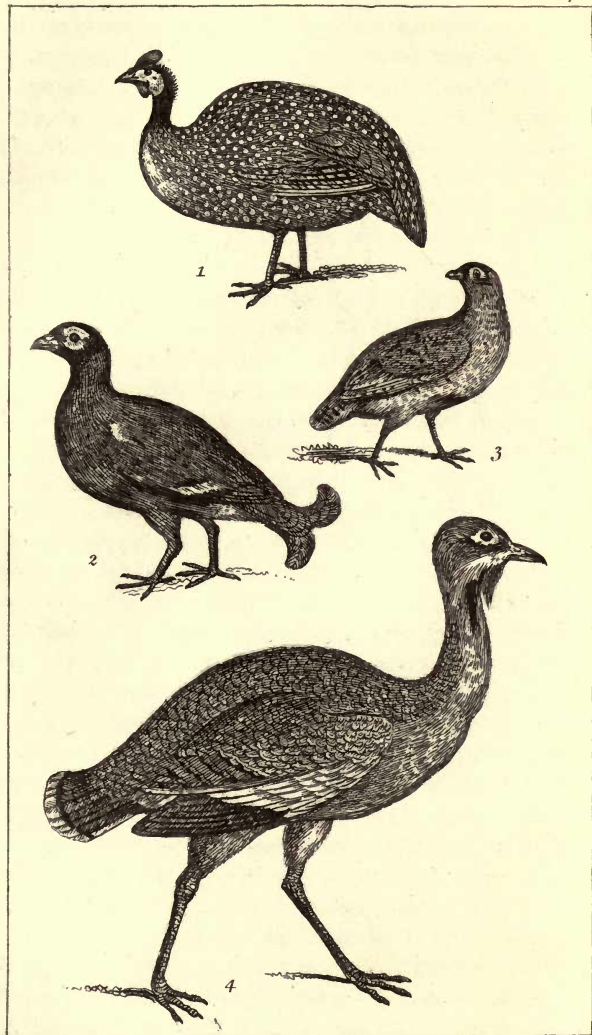
29. PHEASANT TRIBE.

Nearly all the birds of this tribe are in great request as food. Some of the species are found on the old, and others on the new continent. They all form their nests on the ground.

Common Pheasant. In former years Pheasants were much more abundant in our islands than they are at present. The gradual increase of our population, the improvements which have taken place in agriculture, and the art of shooting flying, have all tended to reduce the stock. These birds are domesticated in nearly all the countries of the ancient world; and, as it has been affirmed, were brought from the island of Colchis by the Argonauts. They are partial to wooded countries, in the neighbourhood of cultivated lands. They feed on acorns, berries, grain, and the seeds of plants. Their nests are formed upon the ground, and generally contain from ten to fifteen eggs, which are somewhat smaller than those of the domestic hen. During their breeding-season they

are easily discovered by a peculiar noise they make, in crowing and clapping their wings, which may be heard at a considerable distance. The wings of these birds are short, in proportion to the size of their body, and they are consequently incapable of flying to great distances without alighting.

Domestic Cock and Hen. For the Cock, in a state of nature, we must refer to the woods of Persia, the East Indies, and other parts of Asia. But in this state, his appearance differs greatly indeed from that of our domestic breeds. These birds are said to have been first imported into Britain by the Phœnicians, who carried on a trade with this island, about five hundred years before the birth of our Saviour. The beautiful plumage and undaunted spirit of this bird, as well as his great utility, have, however, long rendered him a favourite. His courage is such, as scarcely to be subdued by the most powerful assailants; and though he die in the effort, he will undauntedly defend his females against the attack of enemies which are infinitely more powerful than himself. The following is an instance strongly in point—"A sparrow-hawk (says the *Compte de Buffon*) alighted in a populous court-yard; a Cock, not more than twelve months old, instantly darted at him, and threw him on his back. In this situation, the hawk defended himself with his beak and talons, intimidating the hens and turkeys, which screamed tumultuously around him. When he had a little recovered himself, he rose, and was taking wing. On this the Cock rushed upon him a second time, overturned him, and held him down so long, that he was caught." In feeding, these birds scrape the ground with their feet, for the purpose of discovering grains of corn, seeds, worms, or insects. The Hen will continue to lay eggs nearly



Guinea Fowl 1. Black Grouse 2. Partridge 3. Bustard 4.

through the whole year, provided she is well supplied with food and water, and is kept in a tolerably warm place. After laying, she has a peculiar note, or cry of exultation, which is well known to every person at all accustomed to poultry. The Hen has also a singular cry, which she utters whenever a bird of prey is in sight, and at the sound of which her young brood immediately run under her wings for shelter and protection. It is necessary that these birds should be well supplied with gravel; without this, they have much difficulty in digesting their food. The fighting of Cocks, which was formerly much more common in this country than at present, is a cruel and savage diversion; but that of throwing at them with sticks, on Shrove Tuesday, was, in the highest degree, disgraceful to an enlightened and a Christian country.

30. PINTADO TRIBE.

There are only four known species of Pintado, the whole of which are natives either of Africa, or of islands adjacent to the African coast.

Guinea-Fowl. These are restless, active, and sprightly birds. They run swiftly, in the manner of a partridge, and have a harsh cry, consisting chiefly of two notes, *ca-mac, ca-mac, ca-mac*, frequently repeated. They are naturally gregarious, or inclined to collect into flocks. We are informed that in Guinea, where they are very numerous in a wild state, they are frequently to be seen in flocks, consisting of as many as two or three hundred; that they perch in the trees, feed chiefly on worms and grasshoppers, and are pursued and taken by means of dogs. Their wings are so short, that they are not able

to fly to great distances. These birds, in a domestic state, lay a great number of eggs; but the young ones are oftentimes difficult to rear. The eggs are considered delicate eating, and some persons are partial to the birds themselves as food; but they are, in general, kept much more for show than for use. Amongst the Romans they were in great repute, and were occasionally sold at very high prices.

31. GROUSE TRIBE.

These birds are inhabitants principally of temperate and cold climates. Their bill is convex and strong. The young ones are able to run about as soon as they are hatched, and even with pieces of the shell adhering to their bodies.

Black Grouse. Delighting in wild, mountainous, and heathy regions, the Black Grouse chiefly inhabit the northern counties of England and the Highlands of Scotland. Some few are found in the New Forest, Hampshire. They feed on acorns, the tops of heath, and various kinds of mountain-berries. They perch and roost in trees, and, like the pheasant, form their nest on the ground. In this the female lays six or eight eggs, which are of a dull yellowish-white colour, marked with numerous rust-coloured specks and spots. The males are extremely quarrelsome, and will fight together like gamecocks. Black Grouse are considered by epicures as excellent food.

They are of large size, the males sometimes weighing nearly four pounds. These have their plumage black, the neck and rump glossed with a shining blue colour. The secondary quill-feathers are white towards the base.

The tail is much forked. In the female the colours and general appearance differ very considerably from those of the male.

Red Grouse, or Red Game. During the winter season these birds are usually found in flocks, or *packs*, as they are termed by sportsmen, consisting of forty or fifty in number. They subsist on heath, the mountain-berries, and corn. In most of their habits they are closely allied to the last species. They form their nest on the ground, and lay from eight to ten eggs. They are in great request for the table. Red Grouse are inhabitants, principally, of the heathy and mountainous parts of England, Scotland, and Wales.

Their usual weight is from fifteen to nineteen ounces. Their head and neck are of a light tawny-red colour. The back and scapulars are deeper red. The quill-feathers are dusky, and the tail-feathers black, except the four intermediate ones, which are barred with red.

Ptarmigan, or White Game. It is a singular and pleasing ordination of Providence, that these birds, which are found on the highest summits of the mountains of Scotland, and other parts of the north of Europe, change their brown summer plumage at the commencement of winter, for one which is perfectly white, and by which means they are secured, amongst the snows, from the observation of predatory animals. They are so little alarmed at the appearance of mankind, that they may be driven in flocks almost like poultry. They feed on the buds and young shoots of trees, on insects, and berries; and construct their nests on the ground, the females laying from six to ten dusky eggs, marked with reddish-

brown spots. In flavour their flesh so nearly resembles that of the common grouse, as scarcely to be distinguishable from it.

The Ptarmigan is somewhat larger than a pigeon. The bill is black; and in summer the upper parts of the plumage are of a pale brown colour, mottled with small bars of black, rust-colour, and white. The wings and belly are white.

Partridge. The habits and instincts of these birds are, in many respects, extremely interesting; but in none more than the stratagems which are adopted by the female parent, for the preservation of her offspring. These, almost immediately after they quit the egg, are able to run after her; and if a dog or man approach the place where they are, she throws herself into his way, appears as if crippled, hops and partly flies forward, just within his reach, until she has enticed him to a sufficient distance from the objects of her solicitude, when she expands her wings, and flies away far beyond his pursuit. Partridges usually associate in small flocks, which have the particular denomination of *covies*, and which consist of the parent birds and their offspring. They pair about the third week in February; form a rude nest, of dry leaves and grass, in some small cavity upon the ground; and lay from fifteen to eighteen eggs, which are of a greenish-gray colour. Their food consists of green corn, seeds, and insects; but particularly of the grubs of ants, to which they are more partial than to almost any other kind of food.—In Greenland, and other extreme northern countries, where the snow lies long upon the ground, Partridges become white in the winter, and acquire, at that season, an additional clothing, in a

thick and warm down which grows at the roots of their feathers.

Quail. These are birds of passage, and are, occasionally, found in nearly all quarters of the world. So numerous are they in some parts of Italy, that, in the kingdom of Naples, more than 100,000 of them are said to have been caught in the course of one day, and within the space of three or four miles. Great quantities of Quails are, in peaceable times, annually imported from France. They are conveyed by stage-coaches, in large square boxes, divided into compartments, and formed for the purpose. The males are courageous and quarrelsome, and were formerly kept by the Athenians, as they now are by the Chinese, for the purpose of fighting. The bodies of these birds are so remarkably hot, that the Chinese hold them in their hands in cold weather, for the purpose of keeping themselves warm. The time of their migration from this country is August or September. They are supposed to pass the winter in Africa, and they return early in the spring. Like the partridge, they form their nest upon the ground, and lay from six to ten eggs, which are whitish, but marked with ragged rust-coloured spots.

The Quail is considerably smaller than the partridge, but has a near resemblance to that bird. Its plumage is greyish and spotted. The eye-brows are white; and the margin of the tail-feathers, and a crescent-shaped spot on them, are rust-coloured. These birds have four toes to each foot, but no spur.

32. BUSTARD TRIBE.

Bustards are natives only of the old continent. Several of the species are of large size. They feed on insects, reptiles, grain, and vegetables.

Great Bustard. If we except some of the species of eagles, there is no wild bird in our islands of size at all comparable with that of the Bustards. Their usual weight is from twenty to twenty-seven pounds. They are now nearly all destroyed; but, in former years, they were by no means uncommon on Salisbury Plain, and some of the other open downs of the south of England. In such situations it was almost impossible for any person to approach them undiscovered; and they were so shy and timid, as generally to keep at a great distance from the observer. They run with surprising swiftness, and seldom attempt to fly. When fat, they are sometimes hunted and killed by means of greyhounds. They subsist upon the berries of the wild briar and bramble, and on seeds, insects, worms, and reptiles. They form no nest, but merely scrape a hole in the ground, and deposit there two eggs, about the size of those of a goose. These are of a pale olive-brown, marked with spots of deeper colour. Bustards are said to live about fifteen years.

The length of this bird is nearly four feet. The head and neck are ash-coloured; and the back is transversely barred with black and bright rust-colour. The belly is white. On each side of the bill of the male there is, at the base, a tuft of feathers.

33. OSTRICH TRIBE.

All the birds of the present tribe have wings so small that they are unable to rise from the ground in flight. They, however, run with great swiftness. In size they far exceed all the feathered race.

Great Ostrich. This is the largest of all known birds, its height, from the top of the head to the ground, being seven feet and upwards. Its wings are remarkably short in comparison with the size of the body, and are furnished with those waving and flexible feathers which are employed in the head-dress of females in this country. These birds have so little discrimination with respect to their food, that they have been known to swallow nails, and other hard and pointed substances, earthenware, glass, and every kind of metallic substance, indiscriminately. In confinement they may be fed on bread, potatoes, corn, and vegetables. An Ostrich will eat four or five pounds weight of barley, a pound of bread, and ten or twelve lettuces, and drink four or five pints of water a day. In a wild state these birds inhabit the burning plains of Africa and Asia, where the rapidity of their course is perfectly astonishing. One of these birds, with a negro mounted upon its back, is said to have run with a degree of swiftness so great that the fleetest race-horse would have been far distanced. They are unable to fly, but they employ their wings to accelerate their speed, by beating the air. When pursued, they are said to be such stupid birds, that they will hide their heads behind a tree or other object, and, conceiving themselves concealed, the hunter may approach and kill them without difficulty. This, however, is a fabulous notion, by no means founded on fact. Os-

triches associate in flocks of four or five females, headed by a male. These are said to unite in the formation of a nest, which consists merely of a hollow place in the ground, and each to lay in it from ten to twelve eggs, which they sit upon in the night, but frequently leave exposed to the rays of the sun during the day. The eggs of the Ostrich are of large size, eight inches or upwards in length; and in flavour are considered greatly superior to those of domestic fowls. The Ostrich inhabits the torrid plains of the interior of various parts both of Africa and Asia.

The head is small, and the neck extremely long and slender. These are clad with a kind of hair. The feathers of the body are black and loose; and those of the wings and tail are white, long, and waved. At the pinion of each wing there is a kind of spine or spur. The thighs and flanks are naked. The feet have each two toes, are peculiarly strong, and of a gray-brown colour. The bill is horn-coloured.

Cassowary. This, like the ostrich, is a large and powerful bird. It also is unable to fly, but runs with surprising agility. Though naturally mild and inoffensive, Cassowaries are able to inflict severe wounds by means of their bill; and they strike with their feet, either backward or forward, in a very dangerous manner. So great is their voracity, that they will devour almost any substances which are presented to them; but they feed principally on roots and fruit. In confinement they will also live upon bread. Cassowaries are found in some parts of India, and in the islands of the Indian Ocean. They form for their nest a hole in the ground, and lay in it three or four eggs, which are of a grayish colour, spotted with grass-green and white.

After covering them over with sand, the females, as it is stated, frequently leave them to be hatched by the heat of the sun.

On the top of the head these birds have a kind of horny protuberance, or helmet, of a blackish-brown colour. The wings are very short. The quills of which they are composed are five in number; and, like those of the porcupine, have no vanes, but are so many spines. The skin of the head and neck is naked, and of a fine blue colour above, and red below. On each side of the front of the neck hangs a long blue wattle. The feathers of the body are black, and have the general appearance of hair. The legs are peculiarly strong; and on each foot there are three toes. These birds have no tail.

ORDER V. WADERS.

34. FLAMINGO TRIBE.

There are only two species of Flamingo, both of which are natives of South America; and one of them, the Red Flamingo, is found also in Africa. They are birds of large size. Their neck is of great length, and their bill bent, as if broken.

Red Flamingo. This very singular bird is scarcely larger in the body than a goose, yet its legs and neck are so long, that, when it stands erect, it is sometimes nearly six feet in height. Inhabiting the marshy districts of Africa and South America, the flocks of Red Flamingoes are said to have much the appearance of a regiment of soldiers, as they are ranged alongside of one another on

the borders of rivers, searching for food. This, which consists principally of small fish, and aquatic insects and worms, they catch by plunging their bill into the water, and from time to time trampling the bottom with their feet, in order to raise up their prey. On these occasions, it is said that they always station one of their party as a sentinel, to give notice of the approach of danger. If alarmed, the watchful bird screams, with a voice as loud as a trumpet, and instantly the whole flock are on wing. They lay their eggs, two in number, in a hollow place, at the top of a small hillock, and, in sitting upon them, they extend their legs down the sides of the hillock, and do not fold them under their body like other birds. By the ancient Romans, Flamingoes were not unfrequently used in their grand sacrifices and sumptuous entertainments.

Their plumage is of a beautiful scarlet colour, except the quill-feathers of the wings, which are black.

35. SPOON-BILL TRIBE.

(These birds are remarkable on account of their bill, which is long, thin, dilated at the tip, and flat. There are only three species.

White Spoon-bill. It is from the singular form of its beak that this bird has its name. The White Spoon-bill is principally found on the coast of Africa, though instances have occurred of its occasionally migrating to our shores. A flock of Spoon-bills alighted in the marshes near Yarmouth, in Norfolk, in April, 1774; and they were formerly known to breed in several parts of Europe, but they are now become extremely scarce. They feed on plants of various kinds, particularly those which grow in

the marshes ; and also on lizards, frogs, serpents, and fish. Their nests are formed in trees, and they lay three or four white eggs.

The bill is long, dilated at the extremity, and somewhat spoon-shaped. The colour of the plumage is white, except the chin, which is black. On the hinder part of the head there is a short crest. The bill and legs are black.

36. HERON TRIBE.

The bodies of these birds are slender, and their neck and bill long. They feed principally on fish, reptiles, and serpents, and are excessively rapacious and destructive.

Common Crane. It is principally in large and extensive marshes that these birds find their subsistence, form their nests, and rear their offspring. When assembled on the ground they set guards during the night. The flock sleep with their heads concealed under their wings ; but the sentinels watch with their heads erect, and if any object alarms them, they immediately give notice by a loud cry. Some writers have gone so far as to state, that the sentinels, which stand always on one foot, hold in the other a stone, in order that, if overcome by sleep, its falling may awake them ; but this is considered to be fabulous. These birds breed in the northern parts of Europe, and have, sometimes, though rarely, been seen in England. Their eggs are only two in number, and of a bluish colour. After their young ones are fledged, the Cranes migrate southward, and are supposed to pass the winter in Egypt and India. Of

these migrations it has been remarked, that they fly at a great height in the air, and somewhat in the form of a triangle, headed by one of the number, who is their leader. They feed on green corn and other vegetable productions, and destroy and devour great numbers of reptiles and serpents.

When full grown, they are nearly five feet in length. The bill is about four inches long, and of a greenish-black colour. The plumage is somewhat ash-coloured, and the forehead black. On the upper part of the neck there is a bare ash-coloured space of about two inches; and above this the skin is naked and red. The quill-feathers of the wings and the legs are black. From the pinion of each wing springs an elegant tuft of loose feathers, curled at the ends, which can be erected at pleasure, but which, when the birds are at rest, hangs over and covers the tail.

Numidian Crane, or Demoiselle. From its beautiful form and very singular motions, this bird has, in France, received the general appellation of *La Demoiselle*, or, the lady. It treads the ground with all the lightness and elegance of a dancer. This circumstance is so remarkable, that nearly all writers who have mentioned it, have named it from its mimic gestures. Aristotle calls it the actor, or comedian; Pliny, the dancer; and both Plutarch and Athenæus have noticed its singular manners.

The Numidian Crane has, behind each eye, a tuft of long, white, and pendent feathers. The bill is yellowish, but red at the tip. The head and tips of the primary quill-feathers are black. The feathers of the breast are long and pendulous. The general colour of the plumage is a bluish ash; but the head, neck, throat, breast, and legs, are black.



Ostrich 1. Cassowary 2. Flamingo 3. Spoonbill 4.



White or Common Stork. In several parts of Europe these birds are so common, that they stalk about, without fear, in the streets of the large towns, in pursuit of offal and other food. The inhabitants of Holland have so great a respect for them, that, in many places, square boxes are placed on the tops of the houses for the purpose of enticing them to build there their nests. They lay from two to four eggs, which are of a dirty yellowish-white colour. The incubation lasts about a month, and both the parents are very assiduous in providing food for their offspring. The disposition of the Stork is peculiarly mild and placid, and its habits and manners are familiar and agreeable. The ancients ascribed to it many of the moral virtues; such as temperance, conjugal fidelity, and filial and paternal piety. There is extant in Holland, a well-known story, that, when the city of Delft was on fire, a female Stork several times attempted, but in vain, to carry off her young ones; and, finding she was unable to effect their escape, suffered herself to be consumed along with them in the flames. Storks are birds of passage, and about the latter end of August in every year, leave Europe for the purpose of passing the winter in climates which, during that season, are more congenial to their nature. As soon as the whole body is collected together, a general signal is given, and they rise into the air with such swiftness, that this vast body, which but a moment before completely covered the plain, is presently lost amidst the clouds. So numerous are these birds, that the late Dr. Shaw saw three flights of them leaving Egypt and passing over Mount Carmel, each of which was at least half a mile in breadth, and was nearly three hours in passing.

The Stork is about three feet in length, exclusive of

the bill, which generally measures six or seven inches. The plumage is white. The quill-feathers of the wings, and the orbits of the eyes, are black. The bill, legs, and skin, are of a blood-red colour.

Heron. The mode in which this bird takes his prey is, generally, to wade as far as he is able into the water, and there patiently to wait for the passing of a fish or a reptile; and the moment this is within reach, he strikes at it with so unerring an aim, that it seldom escapes. It is always more puzzled with an eel than any other prey, as the writhing of this agile fish renders it no easy matter for the Heron to get the head into a position to be passed down the throat. And it is a well-ascertained fact, that when this has been done, the fish has (from the shortness of the intestines of the Heron) sometimes made its escape at the other extremity. These birds will occasionally stand, for several successive hours, perched motionless upon a stone or rock, by the side of the water, in patient expectation of prey passing near their station. And so voracious are they, that they are said to commit greater devastation in a week, than an otter would in a month. Herons are never seen in flocks, except during the breeding-season. They construct their nests in trees, or on lofty cliffs. In these nests, which are chiefly composed of sticks, rushes, and grass, they lay five or six large pale-green eggs.

The length of this bird is somewhat more than three feet, exclusive of the bill, which is about six inches long, and is of a dusky colour. At the back of the head there is a long, pendent crest; the plumage is of a blue gray colour, and there is, in front of the neck, a double row of black spots. Herons are found in all the four quarters of the world.

Bittern. Though, in proportion to its size, a much more powerful bird than the heron, the Bittern is by no means so destructive or voracious. Of retired and solitary habits, it conceals itself among reeds and sedge, in the inaccessible parts of marshes. Its voice, which is well known, and is chiefly exerted in the mornings and evenings, about the months of February and March, is a deep, lowing kind of noise, supposed to be produced by a loose membrane, situated at the upper part of the trachæa or windpipe. Scarcely any words can convey to those who have not heard this call of the Bittern, an adequate idea of its solemnity. These birds construct their nests among the tufts of rushes or long grass, and generally lay four or five greenish-brown eggs. They subsist principally on fish and reptiles, and will devour mice and water-rats, which they always swallow whole. So great are the strength and the ferocity of these birds, that, if wounded, they will exert themselves in a most determined resistance, before they can be overcome. When fat, the flesh of the Bittern is esteemed a very excellent and high-flavoured food.

The Bittern is about three feet in length, and its bill is not more than four inches long. The crown of the head is black, and the feathers on the hind part form a kind of pendent crest. The plumage is of a pale brown colour, variously mottled, in transverse spots, with black and brown. The feathers of the neck are much longer, and more full than in any others of the English species of heron. The legs are of a pale green colour.

37. SNIFE TRIBE.

This is a very numerous tribe. The birds of which it is composed are found in various parts both of the old

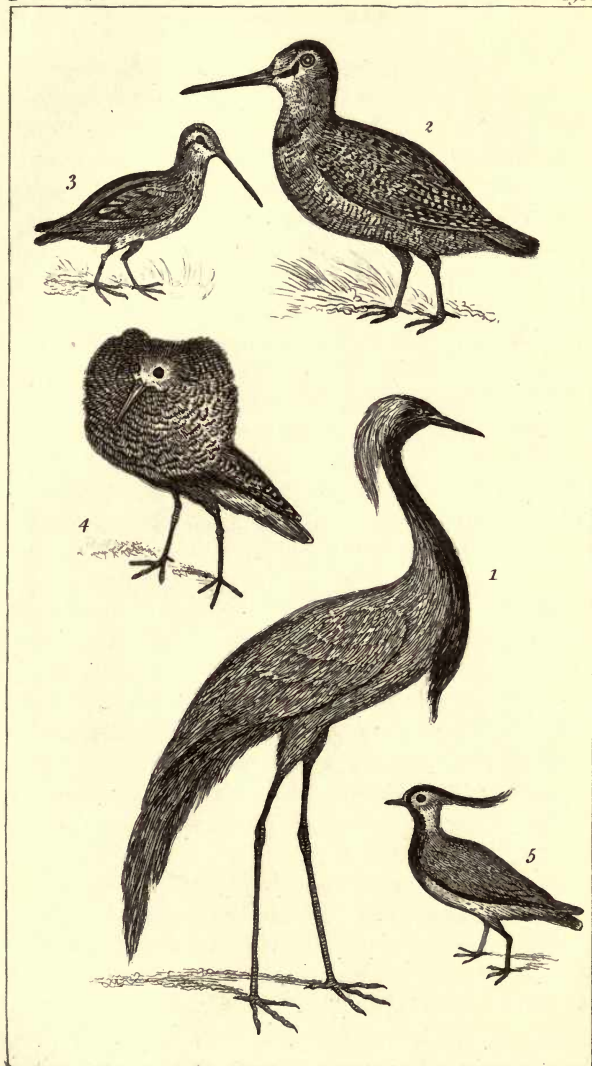
and new continent. They subsist on worms, insects, and the smaller kinds of reptiles.

Curlew. During the winter season, these birds are by no means uncommon on the sea-coasts of various parts of the south of England. They associate in flocks, and utter, during their flight, a peculiar cry or whistle, from the sound of which their name has been derived. They run about upon the sands, for the purpose of picking up marine insects, worms, small crabs, and shell-fish, on which they feed. In the early part of the summer they retire to the mountainous parts of the country, where they pair and breed. Their eggs are four in number, of a pale olive-colour, marked with irregular but distinct spots of brown. Their flesh is sometimes rank and fishy, notwithstanding the old English adage respecting their value.

“ The Curlew, be she white or black,
Carries twelvepence on her back.”

The bill of the Curlew is blackish, curved, slender, and six or seven inches in length. The legs are somewhat blue. The upper part of the plumage is varied with ash-colour and black. The rump, chin, and belly, are white. The quill-feathers are black, spotted with a few white strokes. The toes are flat and broad.

Woodcock. These birds are migratory. They generally arrive in England, from the northern parts of Europe, towards the latter end of October; and continuing here through the winter, take their departure about the beginning of March. In only a very few instances, they have been known to breed in this country. Their nests are formed on the ground, gene-



Numidian Crane 1. Woodcock 2. Snipe 3. Ruff 4. Lapwing 5.

rally at the root of a tree, and their eggs are four or five in number. They feed on worms and insects, which they search for in soft ground, by means of their long and slender bills. Although these birds are not at all eaten in Sweden and some other parts of Europe, their flesh is much esteemed in this country; and they are most commonly cooked with their intestines still in the body.

The colours of the Woodcock are a mixture of gray, black, and reddish-brown. Their bill, which is about three inches in length, is straight, and reddish at the base. The legs are cinereous, and the thighs covered with feathers. On each side of the head there is a black band.

Common Snipe. The greater portion of these birds leave England in the spring of the year, and return in the autumn; but many of them breed with us. They collect together sometimes in large flocks. The places they chiefly frequent, are wet meadows, pastures, and marshes; and they form their nest of dried grass and feathers, in the most inaccessible parts of the marshes, and generally under the stump of an alder or willow. The female lays four olive-coloured eggs, marked with dusky spots. When roused, they utter a feeble whistle, and fly off, generally against the wind, and in a zigzag direction. Snipes are in great request for the table.

The length of the Snipe is about twelve inches, and its bill is nearly three inches long. The legs are brown. The body is varied with blackish and tawny on the upper parts, and is white beneath. There are four brown lines on the forehead.

38. SANDPIPER TRIBE.

The Sandpipers have a shorter bill than the snipes; but in their haunts, and general manners, they nearly resemble them. There are about fifty species.

Ruff and *Reeve*. The very singular and grotesque appearance of the males of this species, is such as attracts attention from even the most incurious observer. The feathers on the back part of the head, and on the neck, are long, and project to a considerable distance; but in the female, these parts are quite plain and smooth. The former have the name of *Ruffs*, and the latter of *Reeves*. These birds are of more frequent occurrence in the fens of Lincolnshire, Cambridgeshire, and Yorkshire, than in any other parts of England. They are migratory, arriving in the spring and disappearing about Michaelmas. They lay their eggs upon the ground, in a tuft of grass. These are four in number, and of a white colour, marked with large rusty spots. The males which are more numerous than the females, are an extremely pugnacious race, fighting with great vehemence and fury, for the possession of the females. Soon after their arrival, they assemble on some dry bank near the water, and each of them occupies a small circular track, which he perambulates so often, that at length the grass is completely worn away. On these spots they wait until a female approaches, the appearance of which always occasions a battle. When several of these birds are kept in a room, they take their stand in the same manner as if they were at liberty. They are caught in great numbers, by means of nets, and are fattened for the table,

Lapwing, or Peewit. The cry of this interesting bird, and the flapping noise which it makes with its wings during flight, are well known to every person who resides in the country. The Lapwing breeds in marshy places, laying its eggs upon a little bed of dry grass, which it forms in some hollow spot upon the ground. In parental affection it is exceeded by none of the feathered tribes; oftentimes throwing itself into the way of men or dogs, for the purpose of drawing them to a distance from the only objects of its anxiety. These birds feed on worms, which they induce to leave their holes by striking the ground strongly with their feet, near the spot from whence they issue. When kept in gardens, they are considered to be very useful in clearing them of worms and snails. Both the flesh and the eggs of Lapwings are reckoned great delicacies for the table.

Common Sandpiper. These birds are distinguished from the others of their tribe, by the loud and clear piping noise which they make; by a jerking motion in their tails, not unlike a wagtail; and by the mode in which they run after their insect prey, along the pebbly sides of rivers and streams. They are frequently seen in pairs, during the summer months, but are by no means numerous in this country. They form their nest in the hole of a bank, and lay five eggs, which are mottled, and marked with dark spots, on a yellowish ground.

The bill is smooth. The upper parts of the body are ash-coloured, marked with black streaks; and the lower parts are white. The legs are of a pale green colour. The weight of the Common Sandpiper is generally about two ounces.

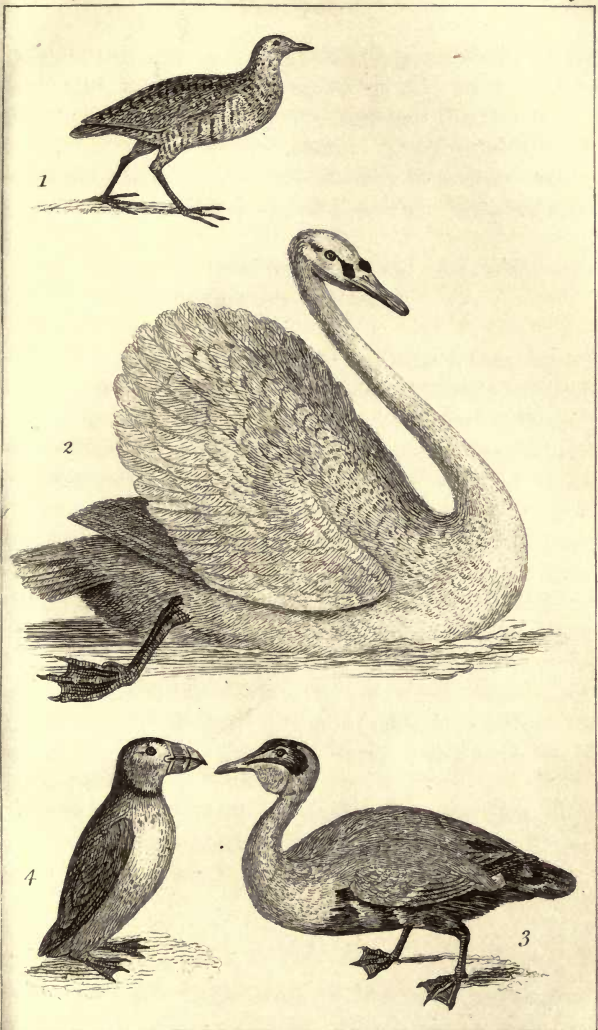
39. PLOVER TRIBE.

Although the Plovers are classed by Linnæus amongst the waders, many of the species seem to partake more of the nature of land than water-birds. Some of them frequent and breed on the heaths and moors.

Dotterel. It is stated of these birds, that they are so little fearful of the approach of mankind, and so much inclined to mimic actions and gestures which they observe, that they are sometimes to be caught by the simplest stratagem imaginable. It is said, that if the fowler goes in pursuit of them in the night, by the light of a lantern, and stretches out his arm, the bird stretches out its wing: if he moves his foot, it holds up one of its legs; the man has thus an opportunity to approach and spread his net, for the purpose of ensnaring the silly bird. This method has, however, long been disused, as these birds are to be shot with much less trouble. Dotterels are chiefly found in Lincolnshire, Cambridgeshire, and Derbyshire, and generally in small flocks of eight or ten. They are reckoned in best season for the table about the beginning of June, at which time they are generally very fat.

They are about ten inches in length. The plumage is varied, and differs considerably in the male and female. The principal characteristics, however, are, the breast ferruginous, a white band over the eyes, and a white line on the breast. The legs are black.

Golden Plover. In several of the mountainous and unfrequented parts of Great Britain, these beautiful birds are found during the breeding-season. They form their nests on the ground, and lay four eggs, of a dirty



Corn Grouse 1. Swan 2. Eider Duck 3. Puffin 4.



white colour, and irregularly varied, particularly at the larger end, with black marks and spots. In the winter they collect into small flocks, and are then to be observed on the heaths and moors. They make a shrill, whistling noise; and, it is said, may be enticed within gun-shot, by any person who is able to imitate the sound.

The plumage is black on the upper parts, and white below; and the feet are ash-coloured.

Long-legged or Stilt Plover. The most interesting account that has been given of this very remarkable bird, was inserted by the late Rev. Mr. White in his History of Selborne. The length of the legs is so extraordinary, that, had we seen such a bird painted upon a Chinese or Japan screen, we should have made large allowance for the fancy of the draughtsman. One of them when embowelled and stuffed, weighed only four ounces and a quarter, though the naked part of the thigh measured three inches and a half. Hence in the Stilt Plovers, the legs are generally more than thrice the length of the whole body; and are, at the same time, very weak and slender. It is a migratory species, a native chiefly of the south of Europe, and rarely visits our island.

The general colour of the plumage is white. The back and the wings are black. The bill is black, and longer than the head; and the legs are red.

40. RAIL TRIBE.

Most of these birds reside in the neighbourhood of marshy and morassy places, where they subsist on

worms, snails, and insects. They form their nests on the ground.

Land Rail, or Corn Crake. In those parts of the country where Land Rails are even very abundant, the singular noise which they make is much better known to the people in general, than the birds themselves. This noise is heard among the standing corn or long grass; and such is the activity with which the birds run from place to place, and so constantly are they in motion, that, within a few moments, it is heard in various parts of the field. They are seldom induced to take wing, and, on the contrary, are so timid, that they will sometimes squat close to the ground, until almost trodden upon by the sportsman or the passenger. They subsist upon snails, worms, insects, and seeds; and form their nests of moss or dry grass, laying in it from twelve to sixteen eggs, of a dull white colour, marked with yellow spots.

The feathers on the crown of the head, the hind part of the neck, and the back, are black, edged with bay. The coverts of the wings are of the same colour, but not spotted. The belly is white. The bill and legs are of a brown ash-colour: the former is short, strong, and thick.

Water Rail. Like the last species, this bird runs very swiftly, and in this act it every now and then flirts up its tail. It frequents the borders of stagnant waters and brooks, concealing itself among the rushes and high grass, and swimming with great agility.

Its wings are of a grey colour, spotted with brown. The flanks are spotted with white, and the under part of the bill is orange-colour.

ORDER VI. SWIMMERS.

41. DUCK TRIBE.

These birds have a strong and broad bill. They subsist on fish, reptiles, worms, insects, and vegetables of different kinds. The species are more than a hundred in number.

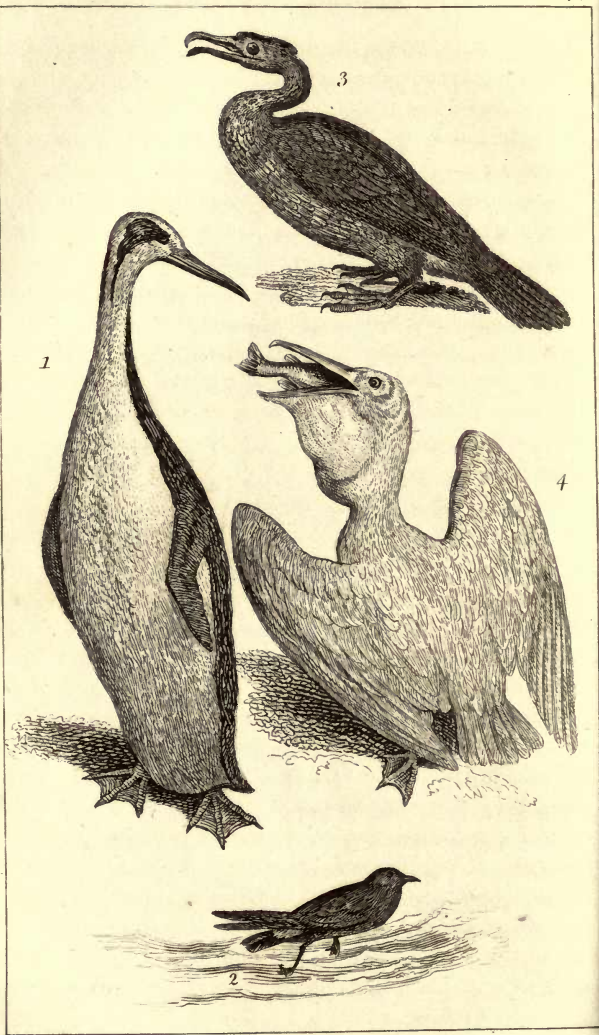
Wild and Tame Swan. Wild Swans sometimes visit the shores of our island in great numbers, during hard frosts, in the midst of winter. They do not, however, breed in this country, but are chiefly found, during the breeding-season, in Norway, Lapland, and other northern parts of the continent. They constitute a species entirely different from the Tame Swans; and, from the loud cry which they sometimes utter during their flight, they have also the name of Hoopers. Tame Swans are considerably larger than the wild ones. Though their appearance, out of the water, is extremely awkward and inelegant, their gracefulness, whilst swimming, is very remarkable. They form their nests on the ground, and lay seven or eight eggs, the hatching of which generally occupies about two months. Their chief food consists of water-plants, insects, worms, and fresh-water shell-fish. The ancients have uniformly spoken of the vocal powers of this bird; and assert, that previously to its death its song is peculiarly beautiful. Hence Æschylus, in his Agamemnon, speaking of Cassandra, says,

She, like the Swan
Expiring, dies in melody.

But it is well known, that at least our species has no song whatever. Swans were formerly in great request as food, but, in this respect, they have been long superseded by the goose. The young ones, or cygnets, are now sometimes, but not often, served up at table. These birds, on the river Thames, are considered royal property; and it is accounted felony even to steal their eggs. Swans, it is said, sometimes live to the great age of a hundred years and upwards.

The principal distinction betwixt the Hooper and the Tame Swan consists in the former having the cere of its bill yellow, and the latter black.

Wild and Tame Goose. The flight of Wild Geese is somewhat extraordinary, being generally in flocks of thirty or upwards in number, at a great height in the air, and always in regular order; either forming a straight line, or an angular figure, like the letter V. The leader, who, it is said, occupies the point of the angle, retires when fatigued to the rear, and the next in station succeeds to his duty. They are noisy and clamorous during their flight, and may be heard even when at a height beyond the reach of human vision. They are found in nearly all the countries of the north of Europe, Asia, and America; but in England are nowhere so numerous as in the fens of Lincolnshire and Cambridgeshire. Here they breed, and continue through the whole year. Tame Geese also are extremely numerous in Lincolnshire, where they are bred and reared for the sake of their quills and feathers. These constitute a great article of traffic; and the birds are kept in such flocks, that one person has sometimes more than a thousand breeders. The feathers are plucked off from the Geese whilst alive, and this cruel operation is performed



Penquin 1. Petrell 2.

Shag 3.

Pelican 4.

generally as often as five times in the year. The quills are only plucked once a year, about Lady-day. Geese seldom breed more than once in the season, and usually rear about seven young ones. As soon as these make their appearance abroad, the gander assumes a self-important character. He now becomes the champion to defend his mate and her progeny; pursues dogs, and even men; but, if the least opposition be made, he immediately retreats. He hisses and stretches out his neck, as though he were furnished with the most powerful weapons of annoyance; and, when the object of his animosity has retired, he returns to the female, screaming and clapping his wings in the most triumphant manner. The flesh of the Goose, both in a wild and tame state, is in great request for the table.

Wild and Tame Duck. Wild Ducks quit the northern parts of the world about the end of autumn, and, migrating southward, arrive in large flocks in the marshes of various parts of England, especially the fens of Cambridgeshire and Lincolnshire. They principally breed in the north, but many of the stragglers continue with us throughout the whole year. Their nests are formed in the most sequestered parts of the marshes, generally far removed from the haunts of man. Here the females lay from ten to sixteen greenish-white eggs. The contrivances for catching these birds are various: the principal is in what are termed decoys. These consist of a large pond surrounded with wood, and situated in a marshy and uncultivated country. In the decoys are kept Tame Ducks, that are so trained as to entice the wild species, which flock thither as to a place of retreat and for food, into nets laid for the purpose of

taking them. The number of Ducks that have been caught in one year, by this and other methods, in the neighbourhood of Wainfleet in Lincolnshire, is said to have exceeded thirty thousand.—These birds, when caught young, are easily tamed; and in this state, from their fecundity and manner of feeding, are considered the most profitable of all poultry. They are frequently hatched and reared by hens. Yet their natural habits do not, in any respect, appear to be altered by this substitution of a foster-parent; for, no sooner are they able to run about, than they fearlessly plunge into the water, leaving their nurse on the bank, in the utmost state of agitation and alarm for their safety.

Eider Duck. It is from this species of Duck that the excessively soft and well-known substance called eider-down is produced. The parent-birds pluck it from their own breast, for the purpose of lining their nests with it. These nests are formed in unfrequented places, near the sea-shores of Scotland, Iceland, and other northern parts of Europe; and, during the season of hatching their young, they are so fearless of man, that they will suffer themselves to be removed by the fowlers from their nest, for the purpose of robbing them of the down, after which they will continue the process of incubation, as if nothing had disturbed them. These birds feed almost wholly on shell-fish and other marine animals.

In size the Eider Duck is nearly twice as large as the common species. The bill is somewhat cylindrical; the upper mandible is forked in a singular manner towards each eye, and is covered with white feathers on the sides, as far forward as the nostrils. In the male the feathers of part of the head, and of the belly and

tail, as also the quill-feathers of the wings, are black; and nearly all the other parts of the body are white. The female is of a reddish-brown colour, variously marked with black and dusky streaks. In both sexes the legs are greenish.

Teal and Widgeon. These are a small species of the duck tribe, which are sufficiently common in most parts of England, particularly during the winter months. They each form their nests in retired places, and in the immediate neighbourhood of the water, laying six or seven eggs, about the size of those of a pigeon. Widgeons may be distinguished from all other birds of their tribe by a whistling noise, which they utter during flight.

The principal difference betwixt the Teal and Widgeon consists in the former having a green spot on the wings, a white line above and beneath the eyes, and a dark-green band extending backward from each eye; and the latter having the wing spot blue-green, the head brown, forehead white, vent black, and feathers of the back cinereous and waved.

42. AUK TRIBE.

The Auks have their bill compressed at the sides, and convex. They breed in holes or the clefts of rocks. Several of the species stand nearly upright.

Puffin Auk. Immense numbers of these birds breed every year in the small islands off the coasts of Wales and Scotland. They dig holes in the earth to the depth of half a yard or upwards, and at the bottom of these they lay a single white egg. I have several times taken

up the females whilst in the act of incubation, and, on placing them upon the ground again, they seldom took wing, but generally ran for shelter into their own or some neighbouring hole. They are birds of passage, appearing on our coasts about the beginning of April, and continuing with us until the middle of August. These birds, when in the holes with their young, make a humming kind of noise, not unlike that produced by the large wheels which are used in the spinning of worsted. This noise, when a person is standing on a spot surrounded on all sides by them, has a very singular effect. On the island of Priestholme, near Beaumaris, I have seen several thousands of these birds, all at the same time, in flight.

They are about twelve inches in length; and the bill is an inch and a quarter long, much compressed at the sides, and nearly an inch and a half deep at the base. Across both mandibles there are oblique furrows. The half of the bill next to the point is red, and that at the base blue-grey. The upper parts of the body, and a ring round the neck, are black; whilst nearly all the under parts are white. The legs are orange-coloured.

Razor-bill. One circumstance has been mentioned respecting these birds, which has often excited both admiration and surprise. They form no nest for their young, but lay their single egg on the naked ledge of a rock immediately over the sea. This egg they poise so nicely, that if once removed, it is said to be a difficult matter so to fix it in the same place as to prevent its rolling off. And thus poised the birds are able to sit upon it in safety, through the most tremendous gales. While hatching, the Razor-bills generally sit alongside of each other in vast numbers; yet each bird, by a wonderful instinct, correctly

distinguishes its own egg from all those which are in the same neighbourhood.

The Razor-bill is about eighteen inches in length. Its bill is black, and has four transverse grooves, the largest of which is white; and there is a narrow white stripe of feathers at the base of the bill, and extending on each side of the head as far as the eye. The upper parts of the plumage and the wings are black, except the tips of the secondary feathers, which are white. The belly is white, and the legs are black.

43. PENGUIN TRIBE.

In many respects, these birds resemble those of the last tribe. Their position in walking, their food, and the mode in which they produce their offspring, are nearly similar to those of the auks.

Crested Penguin. There are no species of birds whose general appearance and habits are more remarkable than those of the Crested Penguin. Their legs are situated so far backward, that in walking, their bodies are perfectly upright; and their wings are so short, as to render them altogether incapable of flight. They swim with great facility, but with their heads upright, and immersed nearly to the breast, the wings serving the place of oars. So agile and sportive are they upon this element that they will frequently leap out of it to the height of two or three feet, if they meet with any obstacle in their course. It is from this circumstance that our seamen have given to them the name of "Jumping Jacks." When on shore they allow themselves to be seized without making any great effort to escape; and they are generally so numerous on the coast of the Falkland Islands, and of the southern

parts of New Holland, that hundreds of them may, at any time, be killed by a person armed only with a club. They form no nest, further than making a hollow place upon the ground, in which they lay only one or two eggs.

The feathers of this, as well as of all the other Penguins, are thick, short, and closely set. Those of the head, neck, back, and sides, are black; whilst those of all the under parts of the body are white. Over each eye there is a stripe of pale yellow feathers, which lengthens behind into a crest about four inches in length. The feathers of the head, in front of this, are longer than the rest, and stand upward. The female has no crest. The bill is of a reddish-brown colour, and the legs are orange-coloured. The general length of this bird is about two feet.

44. PETREL TRIBE.

The Petrels live chiefly in the open ocean, and seldom approach the land, except during the breeding-season. They feed on fish, and on such animal substances as they find floating on the sea.

Stormy Petrel. In its general size and form, the Stormy Petrel has a distant resemblance to the swallow. Sailors hold it in great abhorrence, from a belief that its appearance is always portentous of an approaching storm. If, however, this be the case, the bird ought rather to be considered as the seaman's friend, in thus giving him notice of danger; since its appearance is not the cause, but the effect, of that state of the atmosphere which is productive of tempestuous weather. Small flocks of these birds seek for shelter from the fury of the wind, by flying under the wake of the ships; and the velocity with

which they skim along the hollows of the waves, and sometimes over their summits, is very remarkable. During the day-time they are generally silent, but in the night they utter an almost unceasing and piercing note. About the month of June they retire to the sequestered parts of the sea-coast, for the purpose of breeding and rearing their young. They feed chiefly on the smaller kinds of fish.

Their plumage is entirely black, except the rump, which is white, and the three outer tail-feathers, which are whitish at the base. The general length of these birds is about six inches.

45. ALBATROSS TRIBE.

The Albatrosses are birds of large size and great voracity. They subsist on fish and other marine animals, and are chiefly found in the seas of hot climates. There are only four known species.

Man-of-war Bird, or Wandering Albatross. This is one of the largest, most ferocious, and formidable of all the aquatic tribes, not only preying on fish, but also on water-fowl. In seizing their prey they are said always to do it like the gulls, whilst on wing. These birds float in the air with great ease, and are able to support themselves for a great length of time in that element. They seldom approach the land, except for the purpose of forming their nests, and hatching and rearing their offspring. The nests are formed of earth, upon the ground, and are from one to three feet in height. The eggs are remarkable from the circumstance of the white not coagulating with heat, like the eggs of other birds. The voice of the Albatross is said nearly to resemble that of an ass.

These birds, which are natives chiefly of tropical climates, are about the size of a swan. Their plumage is nearly white. The back and wings are marked with black lines. The quill-feathers are black; and the tail is rounded, and of a lead-colour. The bill is pale yellow, and the legs are flesh-coloured.

46. PELECAN TRIBE.

This is a voracious race of birds. They prey almost wholly upon fish, which they are extremely expert in catching. Several of the species are capable of being tamed.

White or Great Pelecan. No bird has been more celebrated, even from the most remote periods of antiquity, than the Pelecan; and this from a fabulous notion of unusual affection for its offspring. We are told that it feeds its young ones upon its own blood; and the heraldic representation of the Pelecan is always in the act of pecking her breast, and the young ones gaping for the dropping blood. Mankind, struck with the singular appearance of the pouch in its under jaw, have attributed to it qualities and appetites which are no less singular. That it is not destitute of natural affection, is proved by the circumstance of two young Pelecans having been tied by the leg to a post, after which the parent birds continued to bring them food for a great length of time. In their pouch these birds convey to their nest fish in considerable quantity, for the support of their offspring; for this bag, in some individuals, is so capacious, that, although when empty, the two sides of the lower mandible are not more than an inch asunder, yet, when extended, it will admit a man's head with the greatest ease. Pelecans are said to

take their prey in two different ways: either by darting perpendicularly upon it from the air; or by swimming in flocks, and forming a large circle round a shoal of fish, which circle they gradually close, and, in conclusion, seize the fish with their beaks. As soon as their pouches are filled, they return to the shore and swallow the contents; after which they continue in a state of stupor and inactivity until again roused by the calls of hunger, when they fly off in search of fresh supplies. Both in their general appearance and in their habits, these birds are amongst the most sluggish and indolent of the feathered tribes. They form their nests, generally in the most desert places upon the ground. These are about a foot and a half in diameter, and are composed of rushes and grass, lined with softer materials. Pelecans lay two white eggs. They are found in several parts of Asia, Africa, and South America.

When full grown this bird is larger than a swan. The plumage is of a dirty reddish-white colour, except the spurious wings and first quill-feathers, which are black. The bill is about sixteen inches long, and, as before stated, contains within the lower mandible a large bag or pouch. The sides of the head are naked, and somewhat of a flesh-colour; and on the back of the head there is a kind of crest. The bill is yellowish, and the legs are lead-coloured.

Corvorant or *Cormorant*, and *Shag*. The voracity of these birds is such as to have become proverbial; and the appellation of *Cormorant* is frequently applied as a term of reproach, and synonymous to *glutton*. Both the *Shag* and *Corvorant* devour fish in such quantity, and so gorge themselves, as to become stupified and almost incapable of flight. And, from their gross

feeding, their smell is excessively rank and disagreeable. Each species build their nests of sticks, sea-weed, and grass, on the ledges of high and perpendicular cliffs that impend the sea, and sometimes also (notwithstanding their being web-footed) in trees. They lay six or seven eggs. In swimming, both the Corvorant and Shag hold their heads nearly erect. The former species are domesticated by the inhabitants of some countries, and trained for the purpose of catching fish for their owners. In this operation they have a leather thong tied round their neck, which prevents them from swallowing their prey. Even in England, it appears that our monarchs formerly had an officer of the household who was entitled, "Master of the Corvorants."

The Corvorant generally measures about three feet, and the Shag two feet and a half, in length. The tail of each species is rounded. The head of the former has a short crest, and its body is entirely black. The upper parts of the latter are black, and the under parts brown. The tail-feathers of the Corvorant are fourteen in number, and of the Shag only twelve. In each species the legs are black.

Gannet, or Solan Goose. So numerous are these voracious birds on the sea-rocks of some parts of Scotland, that, we are assured, the inhabitants of the island of St. Kilda have been known to take, annually, more than twenty-two thousand of the young ones, besides an amazing quantity of the eggs. They are birds of passage, generally first appearing in the month of March, and continuing until about the beginning of September. As their time of breeding and departure generally accord with the arrival and re-migration of the herrings, it has been supposed that they attend the progress of these fish.

Gannets build their nests on the highest and steepest rocks they can find, near the sea, and lay in them a single white egg. If this be taken away, they will lay another; and, if that be also taken, a third, but never more in one season. This is a wise provision of the Great Author of Nature to prevent the extinction of the species by accidents, and, at the same time, to supply food to the inhabitants of the places where they breed. The mode in which these birds catch their scaly prey, is by rising high into the air, sailing aloft over the shoals of herrings, pilchards, or mackerel, and from time to time closing their wings and precipitating themselves down, head foremost, into the water, from whence they never elevate themselves again without a fish in their beak.

The Gannet is about three feet in length; and its bill, which is irregularly jagged at the edges, is six inches long. The general colour of the plumage is white, with a cinereous tinge. The bill and the quill-feathers of the wings are black. The eyes are surrounded with a naked skin, of a fine blue colour; and, from each corner of the mouth, a narrow strip of naked black skin extends to the hind part of the head. In the lower jaw there is a pouch, of size sufficient to contain five or six herrings. The tail is wedge-shaped. The legs are black, except on the front, which is of a pea-green colour.

47. DIVER TRIBE.

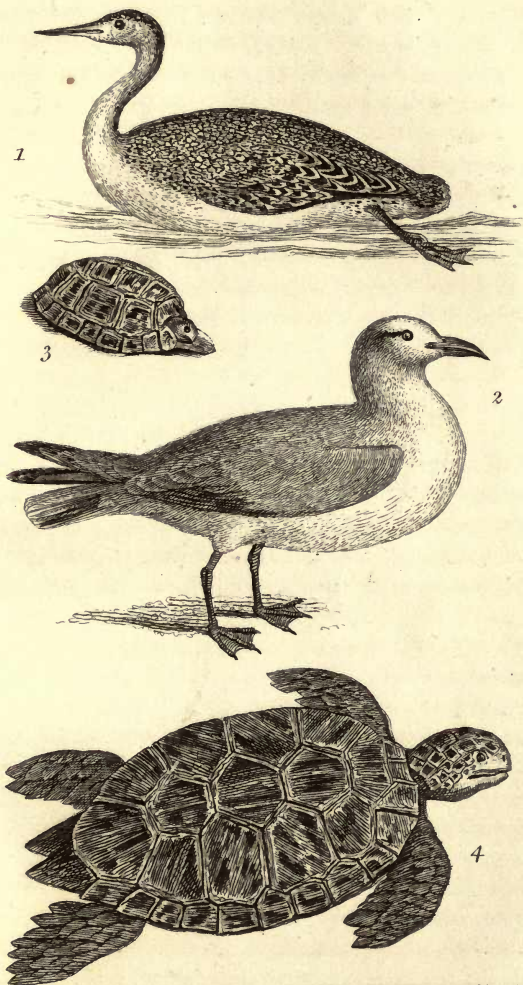
There are betwixt twenty and thirty species of Divers. They prey upon fish, and both swim and dive with the greatest ease and dexterity.

Northern Diver. It is only in the northern seas that these birds are found. They occasionally approach the coasts of Scotland, living chiefly on the ocean, and feeding on fish. They principally breed in Norway, and it is not known that they continue with us during that season.

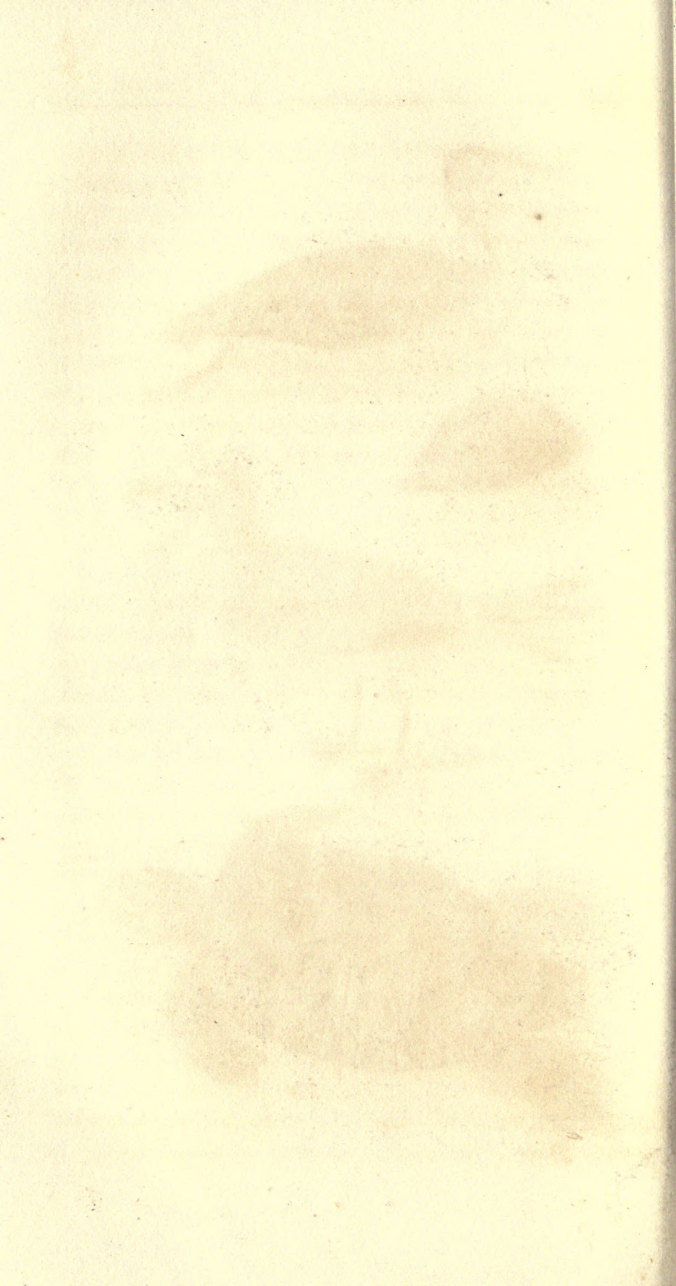
The Northern Diver is the largest bird of its tribe, measuring in length nearly three feet six inches. The head and neck are of a purplish-black colour; and a white interrupted band extends from the chin to the back of the neck. The bill, legs, and tail, are black. The back is marked with square white spots, dispersed in rows, and the wing-coverts with white dots.

Red-throated Diver. In hard winters the Red-throated Divers migrate southward, but seldom at any other time. They frequent lakes in preference to the sea; and subsist on aquatic worms and insects, and on fish. These birds breed in the northern parts of Scotland, constructing their nest, of mosses and grass, in the herbage of the banks, and lining it with down from their own body. The eggs are two in number, and of a gray colour, spotted with black.

Great-crested Grebe. The nest of the Great-crested Grebe is of very singular construction; and, as Mr. Pennant has observed, in some measure realizes the fable of the Halcyon's nest. It is about the size of that of a pigeon, and formed of the roots of bog-bean, the stalks of the water-lily, pond-weed, and water-violet. It is so formed as to float upon the surface of the water, which penetrates it; and, wet as it is, the bird sits upon it and hatches her eggs. These are white, and four in number. The Crested Grebes feed on fish; in pursuit of which,



Northern Diver 1. Kittiwake 2. Tortoise 3. Green Turtle 4.



they dive perpendicularly downward, with the greatest velocity. The flesh of these birds is rank and unpalatable; but they are shot for the sake of their beautiful skins, which are dressed with the feathers on, and afterwards made into muffs and tippets.

The length of the Crested Grebe is generally about twenty-three inches. The head is reddish, and round the neck there is a black collar. The body is brown above, and white below. The secondary quill-feathers are white. The bill is flesh-coloured, and brown at the tip. The feet have each four toes, and are lobed, and not webbed.

48. GULL TRIBE.

These birds are generally found in flocks, in the neighbourhood of sea-shores; and they are sometimes seen by navigators at the distance of many leagues from the land. They swim with great ease, but are not able to dive with so much agility as most other aquatic birds.

Common Gull. There are no species of water-fowl so widely dispersed over the world as these; and near the British shores they are particularly numerous. On the muds of salt-marshes, after the retiring of the tide, and on the shores of the larger rivers, they are generally occupied in picking up and eating such animal substances as the water has left. At particular seasons of the year they resort to the inland parts of the country. Their nests are formed on the sea-rocks. Their eggs, two in number, are about the size of those of a hen, and of an olive-brown colour, marked with dark red blotches, or irregular spots.

Kittiwake. These birds are by no means uncommon on the sea-coasts of this country. They breed upon the ledges of cliffs ; and the young ones constitute a favourite food in Scotland, being served up roasted, a little before dinner, in order to excite an appetite. But, from their rank taste and smell, they seem, says Mr. Pennant, much more likely to produce a contrary effect.

The length of this species is about fourteen inches. The plumage is white, except the back and wings, which are gray, and the tips of some of the quill-feathers, which are black. All the tail-feathers are white. The bill is yellow, and the legs are dusky. There are, on each foot, three toes.

CLASS III. AMPHIBIOUS ANIMALS.

ORDER I. REPTILES.

1. TORTOISE OR TURTLE TRIBE.

These animals are protected by a strong and bony covering, into which they are able to withdraw their head, tail, and legs ; and, sheltered by this, they are capable of resisting the attacks even of the most powerful enemies. Their young ones are produced from eggs, which they lay in the sand, and which are hatched by the heat of the sun.

Common Tortoise. The common or Greek Tortoise is found in woods, in elevated situations, and in the moun-

tainous parts of Sardinia and the South of Europe. Its motions are extremely slow. In the Grecian islands, its flesh is considered by the inhabitants a favourite food. They also drink its blood. These animals burrow under the surface of the ground before the commencement of winter, and continue there, out of reach of the cold, and in a torpid state, until the return of spring. About the month of June, the females lay four or five eggs, in holes which they form in the ground for that purpose. As food, they prefer milky plants, such as dandelions and sow-thistles; and are able to live, for many successive months, without any food whatever. They live to a great age. A Tortoise, which was kept in the garden of the archbishop of Canterbury, at Lambeth, was known to have been there more than a hundred and twenty years.

The Common Tortoise seldom exceeds the length of eight or nine inches. Its feet are scarcely divided into toes. The upper part of the shell is extremely convex, and very obtuse at the rim. The middle is blackish-brown, varied with yellow. The under part of the shell is of a pale yellow. The tail is covered with scales, but terminates in a horny point.

Green or Common Turtle. This is the species which is in great request for the tables of the opulent, in this and various other countries. It is principally brought from the West Indies, and only in a few instances has been found on the British shores. I saw one which, a few years ago, was caught in the sea near Christchurch in Hampshire; but probably it had fallen overboard from some homeward-bound West Indiaman. The largest of these Turtles are known to weigh upwards of eight hundred pounds, and to measure more than seven feet in length. They inhabit only the sea, and feed

upon marine plants and animals. In the breeding-season they approach the shores, for the purpose of depositing their eggs in holes, which, during the night, they scratch in the sand ; and each female is said to produce more than a hundred eggs in the season. In the course of twenty or thirty days, according to the heat of the climate, the young animals begin to crawl from under the sand. Turtles are caught, principally, whilst asleep on the shore. The seamen go gently to the place where they are to be found, and successively turn them on their backs ; from which position they are not able to recover their legs, and are thus perfectly secured, until a sufficient number has been caught.

These animals have only two nails on each of the fore feet, and one on each of the hind feet. Their shell is nearly oval, somewhat broader behind than before. The mouth is extremely large and wide.

Imbricated Turtle. It is from this species that the well-known substance called tortoise-shell, of which combs and numerous ornamental articles are made, is produced. Imbricated Turtles are found in the American and the Asiatic seas, and are only considered valuable by mankind on account of their shells.

They are about two feet in length, and have two claws on each of their feet, both before and behind. Their shell is oval and depressed, the plates being loose, and lying over each other.

2. FROG TRIBE.

These are nocturnal animals. They conceal themselves during the day, and issue forth only in the night. Several of the species live in trees ; but the greater part



Frog 1. Toad 2. Crocodile 3. Nimble Lizard 4.

of them on the ground, in the neighbourhood of ditches or ponds. They subsist, principally, on insects and worms.

Common and Edible Frog. Each of these kinds of Frogs is well known throughout all parts of Europe. During the spring and summer seasons, they principally reside in the water, where they deposit their spawn. This consists of a mass of gelatinous, transparent, and globular eggs, from six hundred to a thousand in number, in the middle of each of which is contained the young animal, or tadpole, in the form of a black globule. In about thirty days the little creatures tear their way out. In this state they are, in almost every respect, both of formation and appearance, very different from the parent animals. They have, beneath the under jaw, a sucker, by means of which they are able to adhere to the lower surface of aquatic plants; their intestines are coiled into a flat, spiral form, somewhat resembling a cable in miniature; they are entirely destitute of legs, and are furnished with a tail. In about six weeks, their legs first begin to appear; and in about three weeks after this, their tail drops off, and they attain their perfect form. Frogs are harmless animals. They feed principally on small snails, flies, spiders, ants, and other insects; but they never attempt to seize upon anything which has not motion. The root of their tongue is situated in the fore part of their mouth, and, when at rest, lies with the point towards the throat. In seizing their prey, they suddenly dart it out, and secure this upon its broad and glutinous extremity. These Frogs are said to attain their full size in about five years, and to live to about thrice that period. The croaking of Frogs may be heard, in a still night, to a great distance; and in fenny countries, the noise they make is exces-

sively irksome and unpleasant. In the fens of Lincolnshire, they have the ludicrous and ironical appellation of *Dutch Nightingales*, and *Boston Waits*. Frogs are used as food on the continent; and, it is said, that at Vienna a scarcity of Frogs would occasion as much discontent as a scarcity of corn in other places. They are brought from the country, thirty or forty thousand at a time, to be sold to the Frog-dealers in Vienna, who keep them in large holes in the ground, of four or five feet in depth, covered with a board, and during the winter with straw.

The principal difference betwixt the Common and the Edible Frog, consists in the former having its back flattish, and somewhat angulated; and the latter having the back very much elevated, the abdomen with a margin, and the body of a green colour, marked with three yellow lines.

Bull Frog. This is an animal of enormous size, sometimes measuring eighteen inches and upwards, from the nose to the hind feet. It is chiefly found in the morassy parts of America, where its croaking noise is said to be as loud and hoarse as the bellowing of a bull, and to be audible, in a calm night, to the distance of a mile and a half. These Frogs leap with so much rapidity, that, when at full stretch, a horse would scarcely be able to overtake them. Their voracity is such, that they will carry off and devour young chickens, ducks, goslings, and other small animals.

Their colour is a dusky olive-brown, marked with numerous spots; and lighter beneath than above. The external membranes of the ears are large, round, and of a brownish-red colour, surrounded by a margin, which is somewhat yellowish.

Common Toad. Few animals which are inhabitants of our country excite so great a degree of disgust and aversion as the Toad. Its general squalid form and appearance, its body dark-coloured and covered with pimples, its crawling pace, and gloomy and filthy retreat, are all calculated to excite antipathy and horror. The consequence is, that it is unrelentingly persecuted, and, wherever it appears, is destroyed. Yet it is not to this moment decidedly ascertained whether it has any venomous properties or not. These animals live much in the water during the spring of the year, and there produce their spawn, nearly in the same manner as frogs. The globules of this spawn are contained in a transparent gluten, and the whole is in the form of a long necklace-like chain or string. The tadpoles when hatched, go through the same changes as those of the frog. Toads chiefly crawl out of their hiding-places towards the close of day, for the purpose of obtaining food. This consists of snails, worms, and insects. The notion that there is a natural antipathy betwixt the spider and the Toad, is altogether fabulous, at least as far as relates to the European species. During the winter season, these animals conceal themselves in the ground, where they continue in a torpid and inanimate state, until the return of spring.

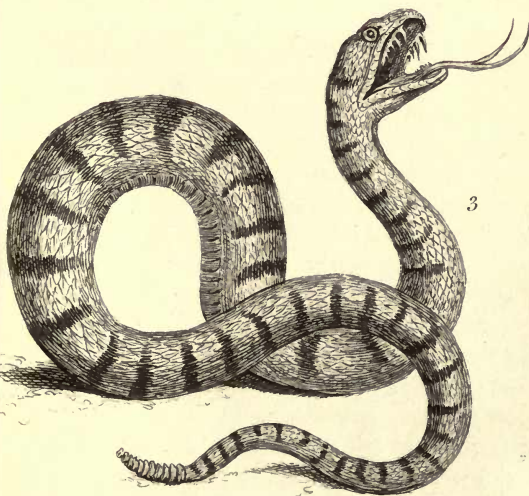
Pipa, or Surinam Toad. This disgusting creature is mentioned only for the purpose of stating the singular mode in which its young ones are produced. On the back of the female there are many small cavities, or cells. At a certain period of incubation the male amasses the eggs together, and deposits them on the back of the female, pressing one of them into each of the cells, the upper part of which, for a while, closes.

over them. After having continued here for about three months, they each emerge from their little prison, completely formed.

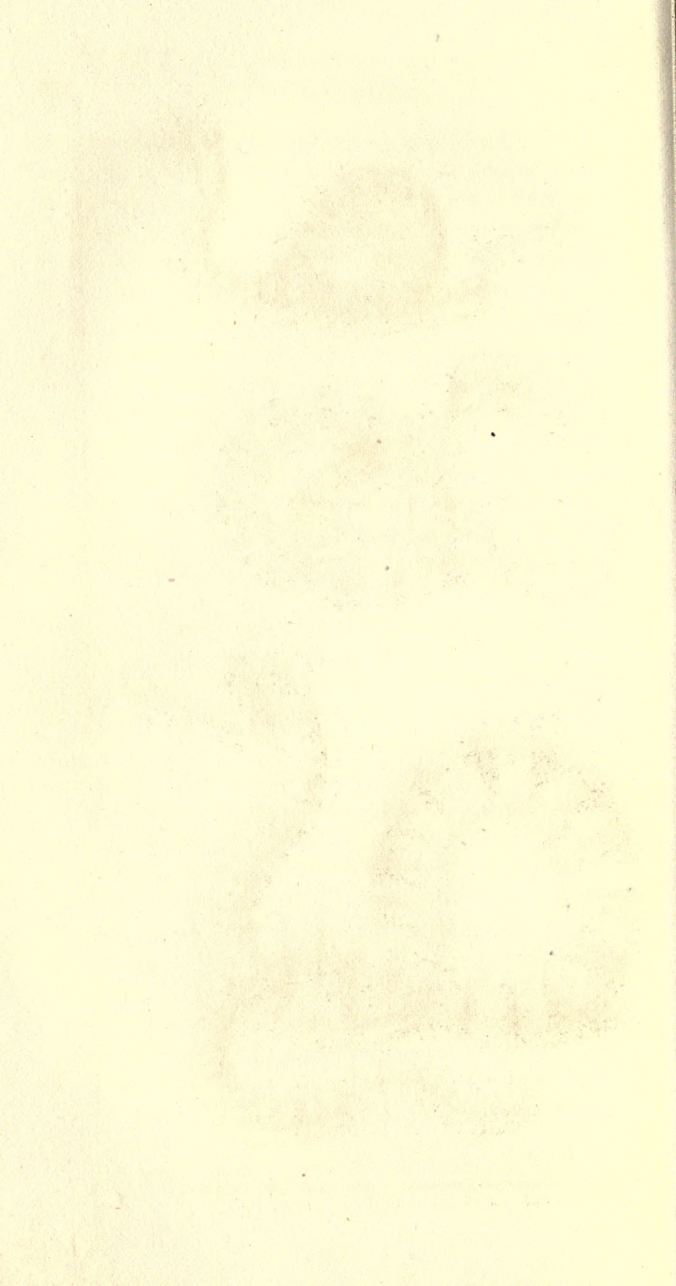
3. LIZARD TRIBE.

Crocodile. The abhorrence in which these tremendous animals are held by the inhabitants of some countries, is indescribable. Their length is often nearly thirty feet. Their mouths are of horrible width. They swim with great rapidity, but, from their unwieldy form, are not able to turn suddenly round. This circumstance gives to persons who are attacked by them, an opportunity to escape. Their skin is so hard on every part, except the belly, as to be impenetrable by a musket-ball. At a certain season of the year, the female scratches a large hole in the sand, and deposits there her eggs, which are generally about a hundred in number, of the size of those of a goose, and each covered with a strong parchment-like membrane. Immense numbers of these are every year destroyed by the ichneumons and vultures. There is a notion, but it is an erroneous one, that both jaws of the Crocodile are movable; since it has been correctly ascertained, that the motion is altogether confined to the under jaw. Amongst the ancient Egyptians this animal was held sacred, and offerings were made to it, as to a deity. At the present day, Crocodiles are found in great abundance in the Nile, and in several of the other rivers of Africa.

Alligator. In nearly all its habits, the Alligator resembles the crocodile. It is, however, not quite so large, and is exclusively confined to the rivers and



Viper or Adder 1. Common Snake 2. Rattle Snake 3.



morasses of those regions of America which lie betwixt the tropics. If caught whilst young, it may, in some measure, be domesticated. Dr. Brickell saw one which was kept in a large pond, before the house of a planter in Carolina. It was regularly fed with the entrails of fowls, and with raw meat. This animal would frequently come from the pond into the house, without doing the least injury to any individual. The voice of the Alligator is loud and dreadful, and its smell so musky and unpleasant, as, where the animals are numerous, to impregnate the provisions, and give them a nauseous, musky taste. The flesh of the young Alligators is frequently eaten by the American Indians; and the teeth of the old ones, which are as white as ivory, are manufactured into various kinds of toys, and articles of utility.

The principal difference betwixt the Alligator and the crocodile consists in the former being much smaller, having its head and part of the neck more smooth, and the snout considerably more wide and flat, as well as more rounded at the extremity.

Guana. That a creature so generally disgusting in its appearance as the Guana should be in great request for food, would almost exceed belief, were we not well acquainted with the fact. It is hunted, by the inhabitants of South America and the West Indies, with as much avidity as game is pursued in other countries. After the rainy season is past, the sportsmen go forth into the woods, each armed with a stick, having a noose at the extremity. As soon as they observe one of these animals asleep, or basking in the sun, they endeavour to slip the noose over its head. Having thus secured it,

they hold it fast to the ground, whilst they tie its mouth and legs, in order to prevent it from biting, or from attempting to escape. Notwithstanding its formidable appearance, the Guana is one of the mildest and most harmless animals imaginable. If excited to anger, it hisses like a serpent; a large pouch which is under its throat, greatly enlarges; it erects the spines which extend along its back, and carries its head in a menacing attitude. But all this is only to intimidate. It frequents the hollows of trees and the clefts of rocks; and although it is not naturally an inhabitant of the water, yet, on necessity, it will continue immersed for a great length of time. It is able to climb into trees, and even among the highest branches, with wonderful agility.

The whole length of the Guana is generally from four to five feet. The tail is long and rounded. Along the ridge of the back there is a row of spines; and under the chin a pouch of large size, and capable of great extension. The animals vary much in colour, but the prevailing tinge is a brownish green.

Nimble Lizard. This is a most innocent and beautiful little creature. It is frequently to be seen on dry heaths and commons, where it delights in basking in the sun. It feeds on insects, upon which it darts with astonishing rapidity, and secures them on its forked and glutinous tongue. In all its motions it exhibits the greatest agility. About the beginning of May, the female lays her eggs, generally in the side of some warm bank, where they are hatched by the heat of the sun. These animals frequently change their skins; and they pass the winter in a torpid state under the ground, or in holes of decayed trees.

This Lizard is generally betwixt six and seven inches

in length. The head is of a light brown colour; and the back and tail are beautifully spotted with black, white, and brown. All the under parts of the body are of a yellowish or dirty white.

Green Lizard. In various parts of the continent, but particularly in the south of France and in Italy, the Green Lizards are very numerous. It is said that they sometimes venture to contend with serpents, and that when they perceive the approach of one of these animals, they are extremely alarmed, and run about with great agitation. The ancient writers, inclined to interpret favourably every circumstance in the character of so beautiful a creature, have considered these indications of fear as marks of attachment to mankind, and as intended to give them notice of the presence of a serpent.

The Green Lizard sometimes measures nearly two feet in length.

Chameleon. From a general notion that this animal assumes the colour of any substance on which it is placed, it has usually been considered to denote the most abject flattery. It is found in the south of Europe, in India, and America. In many respects, its habits and character are very peculiar. It feeds on insects, darting its tongue to a great distance out of its mouth, for the purpose of securing them. Its tail is capable of being coiled round any object, so as firmly to secure it from falling. The eyes are each covered by a rough membrane, having a narrow horizontal slit in the centre which is attached to the eye-ball, and follows all its motions; and they have the singular property of being moved different ways at the same time. The body of this

creature is capable of being inflated, or blown up to a great size, a property unknown in any others of the Lizard tribe. Hence arose the fabulous notion, that the Chameleon feeds on air.

This animal has on each of its feet five toes, three of which are situated one way, and two another. Its body varies in colour, and is covered with a warty skin.

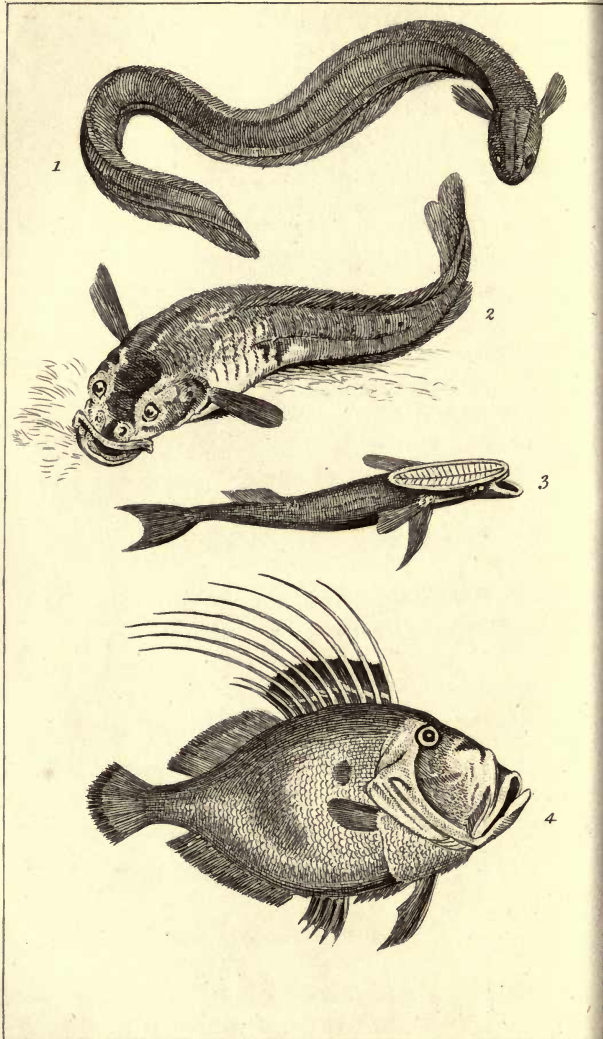
Salamander. The fables which have been related of the Salamander are numerous, and, in many respects, extremely absurd. Though an animal not more than seven or eight inches in length, it has been considered capable of extinguishing, if thrown into them, the fiercest and most raging flames. It is a simple and perfectly harmless little lizard, which lives in moist woods and mountains, and which also is frequently to be seen in the water. It feeds on insects, and is produced from eggs that are hatched within the body of the female.

Its tail is short and round; and the body warty, and of a shining black colour, variegated with large, oblong, and irregular patches of yellow. There are four toes, without nails, on each fore foot. The Salamander is found in shady woods, in many parts of Germany, Italy, and France.

ORDER II. SERPENTS.

4. RATTLESNAKE TRIBE.

These serpents are distinguished from all others by their having, at the extremity of the tail, several joints,



Electric Eel 1. Burbot 2. Sucking Fish 3. John Dorée 4.

which are membranaceous and hollow ; and which, consequently, make a husky, or rattling noise, when the animals move. All the species are poisonous.

Banded Rattlesnake. No serpent which has hitherto been discovered is so noxious and fatal as the Rattlesnake. Such is the rapid effects of its poison, that a dog bitten by it has been known to die in two minutes. In the hotter parts of America, where they are very numerous, these animals sometimes come into the houses ; and they have even been known to coil themselves up between the sheets in the beds. At the extremity of their tail, however, they have a husky kind of rattle, which is, no doubt, intended by Providence as an indication of their approach, and as a warning to all creatures to shun the danger of their presence. This rattle is composed of several thin, hard, and hollow bones linked together, and which sound on the least motion of the animal. Its motions, likewise, are so slow, that it is easily avoided ; and, we are informed, that it has not the power, like some other serpents, of springing at those by whom it is attacked. Rattlesnakes prey upon birds and several of the smaller kinds of quadrupeds, and are themselves devoured by swine without injury.

They sometimes grow to the length of six feet, and the thickness of a man's arm. Their colour is yellowish-brown on the upper parts of the body, marked with broad cross-bars of black. On each side of the upper jaw there are two large, sharp fangs, which bend backward, and are capable of being erected and depressed at pleasure. It is through these that the poison is conveyed into the wound by the act of biting.

5. BOA TRIBE.

These are by far the largest of all the serpent race. They are altogether destitute of poison, never attack but from necessity, and conquer only by superior strength.

Great or Gigantic Boa. How dreadful are sometimes the size and strength of this powerful beast ! Its length has been known to exceed thirty feet ; and its strength to be such, as to enable it to crush even the bones of a living buffalo, by coiling itself round its body. This done, it afterwards gluts itself on its prey, first reducing it to a uniform mass, by licking it over with its tongue. These snakes, when lying in the woods, have sometimes been mistaken for the fallen trunks of trees. For some days after they have swallowed their prey they generally continue in the same place, almost incapable of motion, from their thus overgorging themselves ; and in this case they may be destroyed without danger. They are in no respect venomous. When exasperated, they make a loud hissing noise. They are natives both of India and America ; and, in some parts of the latter country, are considered as objects of worship by the inhabitants.

The ground-colour of the body is yellowish-gray ; and on the back there is a series of large, chain-like, reddish-brown variegations, with other smaller and more irregular marks and spots. There are on the abdomen two hundred and forty plates, or broad scales, and twenty-seven beneath the tail.

6. SNAKE TRIBE.

There are, in the whole, nearly two hundred known species of Snakes, of which about one-fifth only are

poisonous. The latter are, in general, easily distinguished from the others by their large, flattish, and somewhat heart-shaped heads, and rather long than short bodies and tails.

Viper or Adder. These are the only poisonous serpents that are known in the British Islands. They frequent, for the most part, dry and stony places; and are generally very abundant in chalky countries. They are said to swarm in many of the Hebrides, or Western islands of Scotland. The poison is conveyed into the wound through two slender fangs on each side of the upper jaw, and not, as ignorant people imagine, by a sting at the extremity of the tail. The best remedy for the bite of the Viper is to rub the wounded part strongly with salad oil. The females produce their young ones alive, from eggs which are hatched within their own body. These are usually ten or twelve in number, and are agile and nimble from the moment they make their appearance in the light. For some time after their birth they are said occasionally to retreat for shelter and security into the mouth of the parent. These animals live on frogs, toads, lizards, and mice, which they swallow whole. This, in consequence of the loose articulation of their jaws they are able to do even when their prey is considerably thicker than their own body. Vipers, like all other serpents, are capable of supporting a total abstinence from food for several successive months. They pass the winter in a torpid state. Their flesh was formerly esteemed salutary for consumptive persons, but it is at present in very little request.

Vipers are generally about two feet in length, of a

light brown colour, and marked along the back with a series of diamond-shaped spots, joined at the points. The belly is black.

Common Snake. No animals can be more peaceful and harmless than the Common Snakes. They are not, in any respect whatever, injurious to mankind. Their places of concealment are generally bushes, banks, or dunghills in moist places. In the latter they oftentimes lay their eggs, in a connected chain, from twelve to twenty in number, of a whitish colour, and each covered with a membrane resembling parchment. Snakes prey on frogs, insects, worms, and mice; and, during the winter season, conceal themselves and become torpid, in banks of hedges, and under the roots of trees. They change their skins about twice in the year. It is possible to render these animals, in some measure, tame and domestic.

The Common Snakes are larger than the Viper. The colour of their back and sides is dusky or brown. The middle of the back is marked with two rows of small black spots, from which extend a great number of lines of spots crossing the sides. The belly is dusky, and the scales on the sides bluish-white. On each side of the neck there is a white or yellowish spot.

Hooded or Spectacle Snake. Although these are known to be amongst the most poisonous of all the serpent order, yet the inhabitants of India, where they are chiefly found, carry them about in baskets, make them dance to the sound of a flageolet, and perform a variety of whimsical tricks. But it is to be observed, that they are first deprived of their fangs, which renders them incapable of inflicting any wound. When irritated,

or preparing to bite, these Snakes erect their body, bend down their head, and widely expand the skin of their neck, which is marked towards the top with a large and conspicuous patch, somewhat resembling a pair of spectacles.

The length of the Hooded Snake is generally from three to four feet.

Whip Snake. There is, in the East Indies, a venomous species of Snake, which is about five feet in length, and in thickness does not much exceed the thong of a whip. Respecting one of these Snakes, we are informed, that, several years ago, a Jesuit missionary happening to enter an Indian pagoda, saw upon the floor what he mistook for the lash of a whip; but, on taking it up, was perfectly astonished to find that it was endowed with life. He had, however, providentially grasped it near the head, in such a manner that the creature could not bite him but was only able to entwine itself strongly round his arm. And in this manner he held it until it was killed by those who came to his assistance.

CLASS IV. FISHES.

ORDER I. APODAL FISH.

1. EEL TRIBE.

These animals are partial to still waters, where the bottom is soft and muddy. They are all extremely voracious.

So tenacious are they of life, that they will continue to move even after they are cut in pieces.

Common Eel. In their general external form and appearance, Eels are nearly allied to the serpents, but in their internal structure they are essentially different. They have been known to grow to the length of six feet, and to the weight of twenty pounds. In this country the Eel is considered so rich and delicious a fish, that it is in almost equal request for the tables of the rich and the poor. It is usually found in ponds, ditches, or rivers, where the bottom is muddy, or where there are roots of trees, rocks, stones, or other bodies, under which it is secured from the attack of its foes, and where it can lie in wait for prey. Eels feed indiscriminately on all kinds of animal substances, living or dead. Small ducks have been known to be destroyed by them, and a dead dog in a ditch is an invaluable acquisition. So voracious are they, that they are frequently known to devour their own species. During the night these animals oftentimes leave the water, and wander over the meadows to considerable distances, in quest of snails and worms. This will account for Eels being found in ponds which have no connexion with any river or ditch. It is supposed, although the fact is not yet perfectly ascertained, that Eels produce their offspring alive into the world. During the winter season they sink themselves deep into the mud, and continue in a torpid state until the return of spring. There are no fish capable of continuing so long out of the water as these; nor are any so tenacious of life.

Conger or Sea Eel. The length and thickness of the Conger are much greater than those of the common eel; and its weight is sometimes more than a hundred pounds.

Nothing can exceed the voracity of these fish, for they tear animal bodies of large size in pieces, with nearly as much fury as so many bull-dogs. And when caught by means of a hook and line, they are so strong and powerful, and twist and wriggle themselves about in so active a manner, that, if they are of any size, it generally requires considerable address to land and kill them. In nearly all their habits they greatly resemble the common eel. They have, however, never been known to wander out of the water, nor do they ever venture far up the rivers. They are caught in great abundance in Mount's Bay, Cornwall, as well as in the neighbourhood of the Western islands of Scotland. Their flesh is white, but coarse and disgusting.

The chief difference betwixt the Conger and common eel consists in the latter having its lower jaw shorter than the upper one; in the lateral line being whitish, with a row of spots; the body being darker; and the edges of the dorsal and anal fins being black.

2. GYMNOTUS TRIBE.

In their general appearance these fish have a great resemblance to the eel. There are nine species, of which six are found in South America.

Electric Gymnotus or *Eel*. The qualities possessed by this fish are very extraordinary. For the purpose of repelling the attacks of its foes, as well as of stunning and securing its prey, it is endowed with the power of inflicting a sudden and painful shock, in sensation not much unlike that experienced from an electrical machine. Some small fish put by Dr. Williamson into a glass vessel to an Electric Eel, were immediately stunned and

swallowed. So powerful is this shock from a large fish, that, in taking one of them up, a sailor was thrown into so much pain as to sink lifeless upon the ground, nor did he recover for some minutes afterwards. Captain Stedman informs us, that, for a small wager, he attempted several times to seize an Electric Eel with one of his hands, but at every trial he had a severe shock, which extended up each arm, as far as the shoulder; and after about twenty different attempts, to no purpose, he was at length compelled to desist. A very painful sensation has been communicated on touching the fish only with a walking-stick. The Electric Eel, which was first discovered by Dr. Richter, in the year 1677, is a native only of the fresh-water rivers of Surinam, and other adjacent parts of South America.

This fish, in its general appearance, is not much unlike the common eel. Its length is from three to four feet. The head is flat, and the mouth destitute of teeth. The body is without scales, and somewhat of an olive colour. The caudal fin is very obtuse, and is united to the anal fin.

3. WOLF-FISH TRIBE.

The three species which compose the present tribe are found chiefly in the Northern Ocean. Their voracity is unbounded.

Ravenous Wolf-fish, or Sea Wolf. The aspect of these ferocious animals, their wide mouth and enormous teeth, furnish us with a sufficient indication of their savage and unrelenting habits. They seize with avidity almost every thing digestible that comes within their reach; they devour not only fish, but crabs, lobsters, and even some of the most massy of the shell-animals of the deep. No

shell is sufficiently strong to resist the force of their teeth and palatal grinders. On our shores their length seldom exceeds seven feet; but in other countries they are sometimes known to grow to the length of twelve feet and upwards. They prefer deep waters, but approach the shores in the spring of the year, for the purpose of depositing their ova or spawn amongst the sea-weeds, in places where the water is shallow. In their serpentine mode of swimming these fish resemble the eel. They are found, almost exclusively, in the Northern Ocean.

Their head is large, blunt, and rounded. Their fore teeth are strong, conical, and start far out of the jaws: they are six in number in each jaw. The body is of a blackish-grey colour; and the sides, belly, and anal and caudal fins, are somewhat lighter. The dorsal fin extends from the hind part of the head almost to the tail; and the anal fin is nearly of the same length.

4. SWORD-FISH TRIBE.

The distinguishing characteristic of these fish is the prolongation of their upper jaw into somewhat the form of a sword. The mouth is situated underneath, and has no teeth.

European Sword-fish. In size almost equal to the sharks, and armed with a tremendous weapon, which extends to a considerable distance in front of the upper jaw, these animals are, notwithstanding, of a naturally harmless and placid disposition. They attack none, and fear none. Destitute of teeth, they are satisfied, for nourishment, with small fish, and some of the inferior orders of marine animals. So great is their strength, that they have sometimes been known to bury their weapon, to the depth of

several inches, in the sides and timbers of ships. They generally swim in pairs, consisting of a male and female. The female, about the month of June, produces her ova which she conceals amongst marine plants in rocky parts of the sea. Sword-fishes are more common in the Mediterranean Sea, than in any other parts of Europe. On the Italian coast the fins are salted, and sold for food, under the name of *callo*. Their flesh is a coarse and strong food.

The Sword-fish sometimes measures upwards of twenty feet in length. Its snout projects to a great distance, is compressed both above and below, and is sharp at the point. The body is thickest near the head, and tapers gradually from thence to the tail. The dorsal fin is scythe-shaped, and the tail exactly in the form of a crescent. The skin is rough, but very thin. The colour of the back is dusky, and of the belly silvery.

ORDER II. JUGULAR FISH.

5. COD TRIBE.

The species of Cod are extremely numerous, and their fecundity is beyond all calculation. The fishing for them affords employment to many thousands of individuals in different parts of the world.

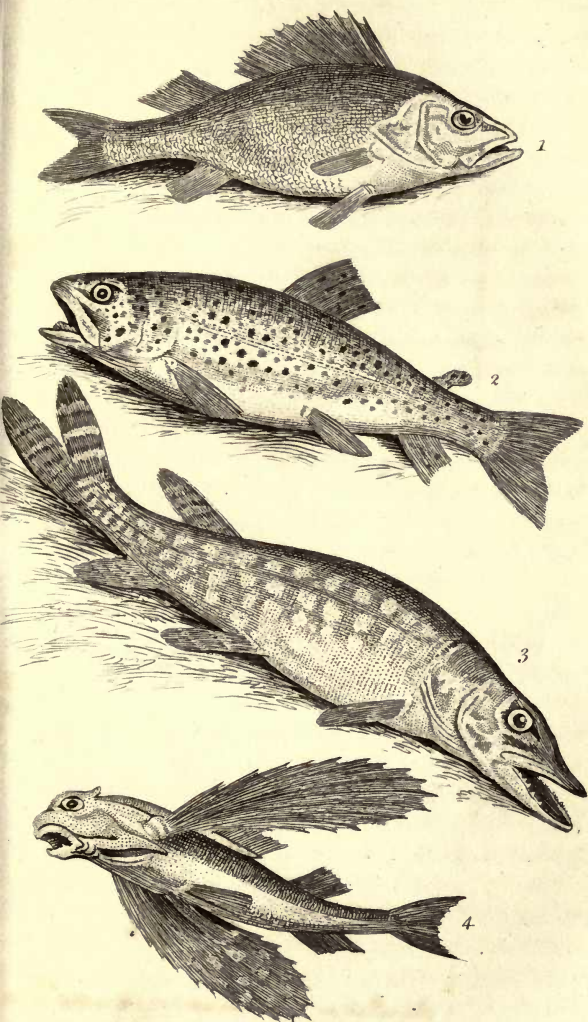
Common Cod. Immense shoals of Cod migrate at certain seasons of the year to certain seas. On the celebrated bank of Newfoundland, which is considered to be a vast submarine mountain, these fish are caught in enormous quantities with hooks and lines, in a depth of water ex-

tending from sixteen to sixty fathoms. The best season of fishing for them here, is considered to be from about the beginning of February until the end of April. Cod are likewise very abundant off several of the northern parts of the British coast. It has been observed that they are oftentimes found to be fattest, and in greatest numbers, in those places where the heaviest sea runs, and amongst the most dangerous rocks. In the European seas the Cod usually begin to spawn in the month of January, and deposit their eggs in rough ground, among rocks. And so extremely prolific are they, that Leewenhoek reckoned in the roe of a middling-sized fish, more than nine millions of eggs! Thus bountiful has the Great Author of Nature been in preserving a species of fish, which is of such abundant use to mankind! They feed on all kinds of small crabs and lobsters, on small fish, and various other marine animals; and their shoals are so immensely numerous, that they are frequently compelled to devour each other. In Newfoundland there is a great trade for Cod-fish, which are exported, part dried and part salted, in barrels, not only to England, but to different parts of the Continent. The air-bladders, which have the name of *sounds*, and the tongues, are here also salted for sale; and oil is extracted from the livers. In Norway the eggs, or roes, are salted, packed in small casks, and sold, principally to the Dutch, for the purpose of bait for anchovies and some other kinds of fish. Before the commencement of the French revolution, there were from twenty to thirty thousand barrels of Cod annually exported from Bergen. The usual weight of these fish is from fourteen to forty pounds; but one was caught at Scarborough, in the year 1775, which weighed seventy-eight pounds.

The Cod has three fins upon its back, and a single beard beneath its chin. Its head and mouth are large. The colour of the back and sides is generally cinereous, spotted with yellow; and of the belly, white. The tail is nearly even at the extremity, and the first ray of the anal fin is spinous.

Haddock. Large shoals of Haddocks sometimes pursue those of the herrings, for the purpose of feeding upon them. During the season they are generally fat, and in great perfection for the table. In winter they become lean and emaciated, from their then feeding only on crabs and the smaller kinds of marine animals. They generally approach the coasts of Yorkshire about the middle of December. They are then full of roe, which is usually deposited upon the sea-weeds, about the month of February. Haddocks are much esteemed for the table, and, consequently, are caught, chiefly by means of ground-lines, laid out and taken up at certain times of the tide, in great numbers. One circumstance in these fish is very remarkable, that they invariably have, on each side of the body, somewhat below the gills, a dark oval spot, which, by superstitious people, is attributed to the impression of St. Peter's finger and thumb, when he took the tribute-money out of the mouth of one of them.

The weight of the Haddock seldom exceeds twelve or fourteen pounds, and is in general two or three. It has three dorsal fins, and a small beard upon its chin. The head slopes towards the nose, and the upper jaw is longer than the lower one. The back is of a yellow-brown colour, and the sides and belly are silvery, with oblique brown lines. The tail is forked.



Perch 1. Trout 2. Pike 3. Flying Gurrard 4.



Whitings are found in great abundance on most of the shores of England, France, and Holland. The shoals arrive in the spring of the year, and generally keep at the distance of from half a mile to three miles from the land. They are usually caught with lines; and they seize the bait with such eagerness, as to afford great diversion. They are chiefly found near the bottom of the sea, in deep water, where they feed in a manner similar to the cod and haddock. The quality of their flesh varies much, according, not only to the season, but the nature of the coast on which they are found. It is in general much esteemed. These fish seldom enter the mouths of rivers; but I have known one of them caught in the river Stour, where the water was perfectly fresh.

The usual weight of the Whiting is from half a pound to a pound and a half. They have three dorsal fins, but have no beard at the mouth. Their back is dusky, and the rest of the body white. The upper jaw is longer than the lower, and the tail is even at the end.

Pollack. These fish delight mostly in deep and rocky places, where the sea runs with great rapidity. During the summer time vast shoals of them are frequently to be seen swimming and gambolling about on the surface of the water, in the most frolicsome manner. They feed on various small kinds of fish, particularly on the sand-launces, which are often found in their stomachs. Their flesh is white, firm, and excellent eating. They are chiefly caught with hooks and lines.

These fish do not often exceed the weight of six or seven pounds, though Mr. Pennant speaks of some which weighed as much as twenty-eight pounds. They have three dorsal fins, and no beard. Their under jaw is the

longest, and the lateral line is curved. Their colour is blackish-brown above; and silvery, with brown dots below.

Hake. On the Nymph Bank, off the coast of Waterford, as well as in several places off the coasts of Devonshire and Cornwall, these fish are caught in vast abundance. The first shoal generally arrives in the month of June, during the mackerel-season, and the other in September, at the beginning of the herring-season. It is, consequently, supposed that they follow these fish for the purpose of preying upon them. Mr. Pennant states, that formerly it was no unusual thing on the Nymph Bank, for six men, with hooks and lines, to take a thousand Hake in one night, besides a considerable quantity of other fish. This fishery has, however, been long on the decline. Nearly all the Hake thus caught were salted and exported to Spain and Portugal. The flesh of the Hake is white, but coarse, woolly, and by no means so good as that of most other fish of the cod tribe.

In its general length, the Hake measures from two to three feet. It has two dorsal fins, the second of which extends nearly to the tail. The under jaw is the longest, and the mouth is without beard. The upper parts of the body are cinereous, and the lower parts dirty white. The head is flat and broad, the mouth wide, and the teeth very large and sharp.

Ling. These are the longest and narrowest fish of their tribe. They are very abundant on the coasts of Scotland and Ireland. In Norway they are caught in the spring of the year, and again in the autumn. Lines of sixty fathoms in length are used, having their hooks

aited with herrings or other fish. It is said that in places where they are extremely numerous, the surface of the sea is covered with small bubbles. In the Yorkshire seas, these fish are in greatest perfection from the beginning of February until May. The females deposit their spawn in the month of June, upon the oozy ground near the mouths of large rivers. The Irish Ling is considered to be excellent of its kind, and larger than those caught in other places. They are salted and dried for exportation. Oil, in considerable quantity, is extracted from their livers.

The length of the Ling is from three to four feet. There are two dorsal fins, of which the second extends nearly to the tail; and on the chin there is a single beard. The upper jaw is longer than the lower. The body is slender, and of an olive-brown colour above, and white beneath. The dorsal and anal fins are edged with white and the tail is tipped with white, but has, near the end, a transverse bar of black.

Burbot. This is the only fish of its tribe which is able to subsist in fresh waters. It is found in the river Trent, and also in the river Witham, and in the great East Fen in Lincolnshire. It is somewhat eel-shaped, and, when alive, has a disgusting appearance; but it is esteemed a very delicate fish for the table. It is almost as soft and slippery as an eel, and, in the water, easily escapes through the fingers of any person who attempts to lay hold of it. Like the eel, it conceals itself at the bottom, in chinks betwixt stones, or amongst mud, where its dingy colours render it almost invisible. We are informed, that in these situations the beard on its under jaw having the appearance of a worm, attracts the attention of the smaller fish, which, on attempting to

seize it, fall a sacrifice to their own voracity. Burbot spawn in December and January, on smooth places at the bottoms of rivers. In some countries, the air-bladders of the Burbot, which are very large, are employed for the making of isinglass. These fish are very abundant in some of the rivers of the continent, and are also found in the East Indies.

The largest of the English Burbots seldom weigh more than two or three pounds. They have but two dorsal fins; and have two beards at the end of the nose, and a third on the chin. The jaws are of equal length. The head is flat and ugly, not unlike that of a toad. The body is long and round; and its general colour dusky, or dirty green, spotted with black and yellow; and, in some individuals, the belly is white.

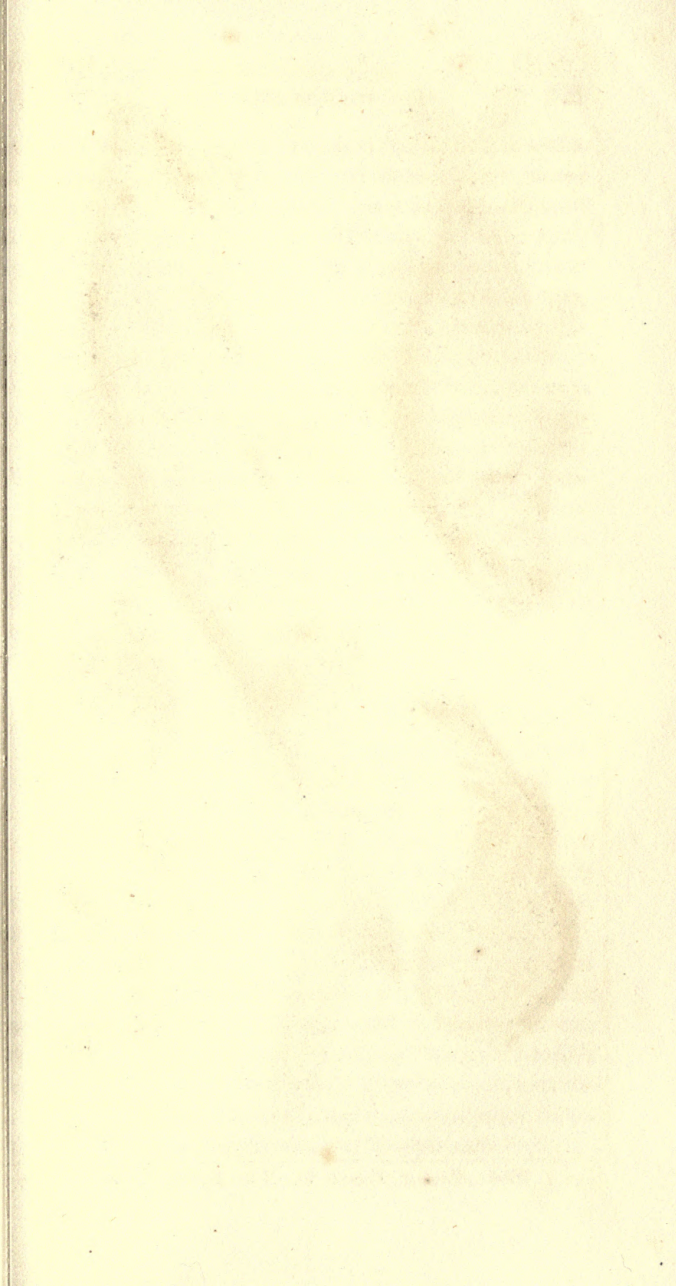
ORDER III. THORACIC FISH.

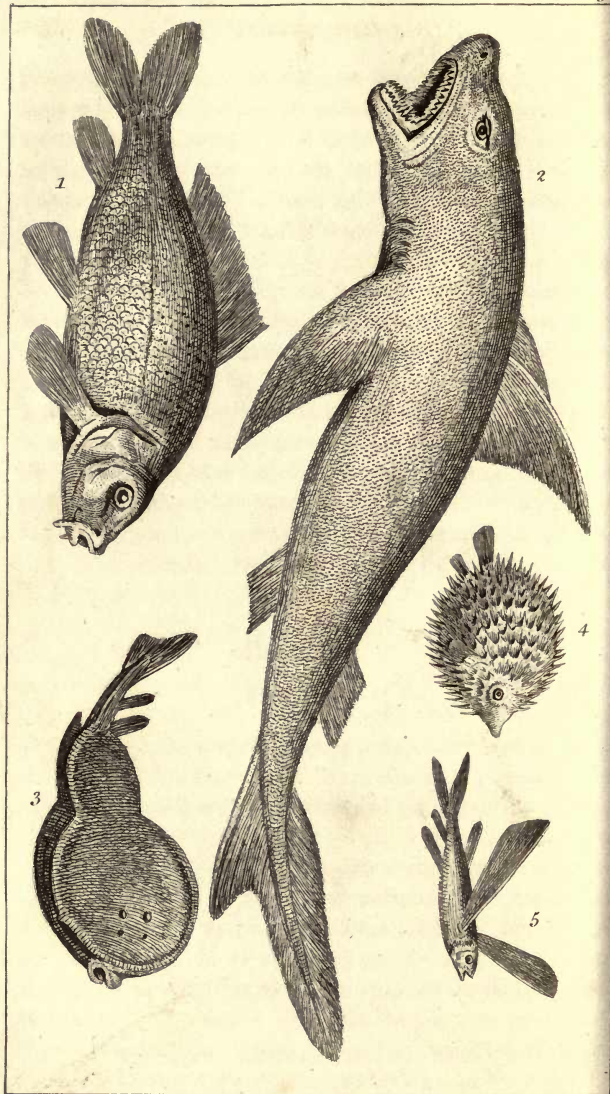
6. SUCKING-FISH TRIBE.

These fish are enabled to adhere to solid bodies by the upper part of their head. This contains an oval space, and has across it a great number of grooves.

Common Sucking-fish, or Remora. The ancients had some very extraordinary notions concerning this fish. They believed, amongst other things, that by the power which it has of adhering to solid bodies, it was able to stop the progress of a ship, even in its fastest motion.

“The Sucking-fish beneath, with secret chains,
Clung to the keel, the swiftest ship detains.”





Carp 1. White Shark 2. Torpedo 3. Globe Diodon 4. Flying Fish 5.

The part by which these fish fix themselves, is an oval space, with sixteen or eighteen grooves on the top of the head. They frequently adhere to the bodies of the larger fish, by which means they are enabled to pass through large tracts of ocean in infinitely less time than they would be able to swim to the same distance by their own exertions. But with respect to their power of arresting the progress of a ship or a fish, it has been justly remarked, that however numerous they may be upon it, they cannot possibly have any greater influence over its motions, than so many solid bodies of any description, and of equal size, adhering to it. Sucking-fishes are found chiefly in the Mediterranean Sea and Pacific Ocean.

They measure from twelve to eighteen inches in length. The tail is forked ; and on the head there is an oval space, with from sixteen to nineteen furrows or grooves. The back is convex and black, and the belly white.

7. BULL-HEAD TRIBE.

The bodies of these fish are viscous, and the scales so small as scarcely to be perceptible. The head is larger than the body, and more or less spiny.

Father Lasher. It is chiefly in the Northern Ocean and the Baltic Sea that this species of bull-head, remarkable for their weapons, their strength, and their agility, are found. They pursue, with great rapidity, various smaller kinds of fish ; and are generally found in shoals, near the bottom of the water, never approaching the surface, except when the pressure of hunger compels them to pursue there their prey. They will even obstinately combat with fish much larger in size than themselves ; employing, in this warfare, the spines of the head,

and the sharp points of their fins. On the rocky shores of our island they are frequently to be found lurking under stones, amongst sea-weed. The Greenlanders are very partial to these fish as food; and it is said that they may be made into a very nutritive and wholesome soup.

Their length is not often more than nine or ten inches. The head is large, and armed with many spines; and the mouth is very wide. The upper jaw is a little the longest. The first dorsal fin consists of eight spiny rays. The colour of the body is brown, or dusky, and marbled with white or red. The belly is of a silvery white colour.

Miller's Thumb, or River Bull-head. These little fish are found in most of the rivers and brooks throughout Europe, where the water is clear, and the bottom sandy or gravelly. I have known them caught even in places where the water was salt from the influx of the tide. They conceal themselves amongst stones, from whence they suddenly dart upon and seize their prey, and where they are themselves secure from the attack of their enemies. It, however, frequently happens, that they fall a sacrifice to the voracity of eels, perch, and pike. So great is their eagerness for prey, that, during the summer time, they may be caught by the most inexperienced angler, with a line and hook baited with a red worm. They deposit their spawn generally in March and April. Although of small size, they are considered to be excellent eating.

Their form and colour are disgusting and unpleasant. In length they do not often exceed three inches and a half. On each gill-cover there is a crooked spine, which turns inward. The head and the body are in other respects

smooth. From the head, the body gradually tapers to the tail. Their colour is a dusky brown, mixed with dingy yellow, and the belly is whitish.

8. DORÉE TRIBE.

The fish which constitute the present tribe, differ much from each other, both in their appearance and habits. Some of the species are found in fresh, and others in salt water.

John Dorée. The common name of this fish is a corruption from the French of *jaune dorée*, signifying, yellow or gilt fish. Its general appearance is very far from inviting; but epicures are not to be deterred by appearances, and this fish is one of those which are in the highest request for the table. It was first introduced into notice by the late comedian, Mr. Quin. The immense size of its mouth, and the number and strength of its teeth, sufficiently indicate its voracious propensities. Those persons who are in the habit of sea-fishing, know that these fish will eagerly seize, almost without discrimination, nearly all kinds of baits. When first taken out of the water, a singular kind of noise is generally made by the rushing of the air through the openings of the gills. From a dark spot on each side of the body, some persons suppose that it was the Dorée, and not the haddock, out of whose mouth the apostle St. Peter, at the command of our Saviour, took the tribute-money. These fish are found in the North Sea, the British Channel, the Mediterranean, and the Atlantic Ocean; and they are caught in great numbers off the coasts of Devonshire and Cornwall.

The greatest weight of these fish is from ten to twelve

pounds. The body is compressed on the sides, and of a somewhat oval shape. The head is large, and the snout very much projects. There are two anal fins, and the tail is rounded. The first dorsal fin consists of ten strong spiny rays, with long filaments, reaching far beyond the ends of the rays. The colour of the sides is olive, varied with light blue and white, and appearing, whilst the fish is alive, as if gilt.

Opar or *King-fish*. Such are the beauty and the splendour of this fish, that a French writer has observed, that he considers it "as a nobleman of the court of Neptune, in his gala habit." It usually swims near the surface, and sparkles with the resplendence of gold; it also reflects various tints of red, azure, and bright green. The *Opar* has occasionally been caught on the British coasts, but respecting its habits of life, little is hitherto known.

It is a fish of large dimensions, sometimes measuring as much as three feet in length, and weighing from a hundred and twenty, to a hundred and forty pounds. Its general shape is oval, but more slender towards the tail than the head and compressed at the sides. The mouth is small, and the tail somewhat crescent-shaped. All the fins are of a rich scarlet colour. The upper part of the body is bright green, variegated with silvery spots, and enriched with a shining golden hue. This, by degrees, vanishes into a bright silvery appearance; and near the belly the gold again predominates, but in a lighter ground than on the back.

9. FLAT-FISH TRIBE.

These fish are remarkable, from the circumstance of their eyes being both on one side of their body. They

swim obliquely; and, having no air-bladder, continue entirely at the bottom of the water.

Holibut. On the northern coasts of England, these fish are sometimes caught of such size as to weigh from two to three hundred pounds. Except the sharks, they are the largest of all known fishes. So voracious are they, that they seize upon and devour crabs, lobsters, cod, haddocks, flat-fish, and, in short, every species of living creature which passes within reach of their haunts. Instances have occurred of their swallowing even the lead of lines employed by ships for sounding the depth of the sea. They spawn in the spring of the year, among the rocks and weeds near the sea-shore. Their ova are of a pale red colour. They are easily caught with a bait; but they are coarse eating, except those parts which are near the side fins, and these are fat and delicious, but too rich for a person to eat much of them.

The eyes of the Holibut are on the right side of the body. Their skin, which is dusky above and white on the under parts, is perfectly free from spines. The general shape of the body is long and narrow.

Flounder. These fish are found in the seas of nearly all the northern parts of the world; and not in the sea only, but also in waters connected with the sea, which are not at all saline. The Flounders that are caught in the river Thames, are considered firmer and better flavoured than those which are found in any other part of England. They swim entirely at the bottom of the water, burying themselves in the sand or mud, where they lie concealed, except their mouth and eyes, and

where they seize upon such small crabs, shrimps, or fish, as pass within their reach. They deposit their ova in the winter, and are considered in best season for the table during the summer months.

The Flounder is distinguished from the plaise, and indeed from every other fish of its tribe, by a row of small, but sharp spines, which surrounds its upper side, and is situated at the junction of the fins with the body. The colour of the upper parts is pale brown, and of the belly white.

Plaise. In all their habits these fish are nearly allied to the Flounder, but they continue exclusively in the sea, never ascending the rivers. They usually spawn in the months of February and March, depositing their ova amongst the rocks, or upon marine plants. In general they are in much greater esteem as food than the flounder; but when they are small and thin, they are soft gluey, and unpalatable. The best Plaise are said to be those taken off Rye, on the coast of Sussex. In some countries these fish are salted and dried, as articles of commerce.

They are occasionally known to attain a very large size weighing fifteen pounds and upwards. The upper parts of the body are of a clear brown colour, marked with bright orange-coloured spots; and the under parts are white. They are easily known by an irregular row of six tubercles behind the left eye.

Dab. The best season for the Dab is generally considered to be during the months of February, March, and April. They spawn later than any other fish of their tribe, not till May; and at this time they are soft and

ill-flavoured. They feed on marine worms, shrimps, and small crabs.

The eyes of the Dab, like those of all the preceding species, are situated on the right side of the body. Their colour is a uniform brown above, and white below. The scales are small and rough. There are small spines at the origin of the dorsal and anal fins. The teeth are obtuse.

Sole. Except the turbot, there is no fish of the present tribe so much in request for the table as the Sole. Its flesh is white, firm, and of excellent flavour. Soles are generally found on sandy shores, and in most seas from the Cape of Good Hope to the Baltic; and they are usually caught by means of seine and trawl nets. Unlike most other kinds of fish, they may be kept for several days, even in hot weather, without becoming tainted; and this improves their flavour. It is on this account that the Soles which are brought to the London markets are considered much better for the table than those which are immediately taken from the sea. In the winter they retire into deep water. In most of their habits they resemble the plaice.

On the English coasts these fish seldom weigh more than about two pounds; but on other coasts they are known to weigh so much as seven or eight pounds. Their eyes are on the right side of the body. Soles are oblong, of an olive-colour on the upper parts, and white below. The skins are rough, with small, hard, toothed scales. The fins are olive-coloured, both above and below.

10. PERCH TRIBE.

Few species of fish are more voracious than these; and their strength and activity in the pursuit of prey are very great. There are, in the whole, about sixty species.

Common Perch. It is chiefly in deep places, rivers, and streams of fresh water where the current is rapid, that the shoals of these fish are found. They spawn about the month of April, the females depositing their ova upon the weeds and other substances, in shallow places. In the centre of each egg is to be remarked a small, clear bubble, round which is the yellow, which also is surrounded with white. There are few kinds of fish more rapid in their motions, or more voracious in their habits, than the Perch. All the smaller inhabitants of the water, whether worms, fish, or insects, fall a sacrifice to their appetite. On some occasions they do not spare even their own kind. So tenacious of life are these fish, that instances have been known of their surviving journeys of fifty or sixty miles, packed in straw. Perch are, in general, easily caught with lines, the hooks of which are baited with worms or small fish. The best season of angling for Perch is from April to January; and the time from sunrise till ten o'clock, and from two o'clock till sunset; except in cloudy weather, when they will generally bite all day. It is said that a pond may be stocked with Perch by means only of the eggs. The length of the Perch seldom exceeds two feet, and its weight five or six pounds; but the most usual weight is from half a pound to two pounds. On the back there are two fins, the first of which

has fourteen strong, spiny rays, and the second sixteen soft ones. The body is of a beautiful greenish golden colour, marked with about five blackish transverse bands.

Ruffe. Although this is but a diminutive species, its strength and voracity cause it to be dreaded by several of the smaller inhabitants of the water. It spawns in March and April, depositing its eggs on sand-banks in fresh-water rivers or streams, and generally at the depth of from five to ten feet. In Prussia it is said that these fish are particularly abundant. We are informed by Klein, that in fishing one day under the ice in the Frisch-Haffs, as many Ruffes and small salmon were caught as filled seven hundred and eighty small tubs. They are considered as delicate eating, but, from the smallness of their size, they are very little in request. It is stated that these fish may be kept for a considerable time in a glass jar, provided the water be frequently changed; and that, in this state of confinement, they will become tame and familiar.

They seldom exceed the length of six inches. On the back there is a single fin, consisting of twenty-seven rays, fifteen of which are spiny, and the remainder soft. The back and sides are of a dirty green colour, the last inclining to yellow, but both spotted with black. The dorsal fin also is spotted with black, and the tail marked with transverse bars.

Basse. This is a species of fish which was well known to the ancient Greeks and Romans. It is found in nearly all parts of the Mediterranean; and also in the seas which surround the British coasts. It is strong, active, and voracious; and was considered by the ancients amongst

the most delicate of fish. In the months of August and September it is considered to be in highest season. The females, in spawning, generally deposit their eggs near the mouths of rivers.

Instances have occurred of these fish weighing as much as fifteen pounds and upwards. They have two dorsal fins, of which the first consists of nine strong, spiny rays, and the second of one spiny ray and thirteen soft ones. Each gill-cover terminates in a sharp point. The back of the Basse is dusky, tinged with blue; and the belly is white.

II. STICKLEBACK TRIBE.

None of the Sticklebacks are of large size, and some of them are very small. There are about thirteen known species.

Three-spined Stickleback. There are few fish so small, and, at the same time so active, as these. They are seldom so much as two inches in length, and yet one of them, kept in a glass, has been known in five hours to devour as many as seventy-four young dace, each an inch or upwards in length, and of about the thickness of a horse-hair. Notwithstanding the smallness of their size, these fish are sometimes so numerous that they are obliged to colonize, and leave their native places in search of new haunts. Once in every seven or eight years they appear in the river Welland, in Lincolnshire, in such amazing shoals, as to form a vast body, occupying the whole width of the river. When this happens, they are caught for the purpose of being used as manure for the land; and an idea may be formed of their numbers, when it is stated that one man, employed by a farmer to catch

them, earned, for some time, four shillings a day by selling them at a halfpenny a bushel. It is said, that the inhabitants of the country around Dantzic collect Sticklebacks in great numbers, and squeeze them in presses, for the purpose of obtaining oil, which they find useful for burning. These little creatures attack their enemies furiously, by erecting, and sticking them with, the three sharp spines upon their back. They feed on small worms, the spawn and young of other kinds of fish, and also on several kinds of water-insects. So short-lived are they, that they are said seldom to attain their third year. They deposit their spawn on aquatic plants, about the months of April and May.

The principal characteristic of this diminutive fish is its having three spines on its back, capable of being erected or depressed at pleasure. The belly is prominent; and the body, near the tail, is square. The sides are covered with large, bony, transverse plates. The colour of the back and sides is an olive-green. The belly is generally white, but, in some individuals, it is of a bright crimson.

Pilot-fish. It is the singular propensity and habits of this species of stickleback, which is an inhabitant of nearly all the seas of hot climates, to swim in shoals round sharks, and probably for the purpose of feeding on such prey as is left by these voracious inhabitants of the deep. They also swim round vessels, and probably for the offal which is thrown overboard; and it is said, that, when once they accompany a ship, they always continue with it until it arrives in port. Du Tertre informs us that he has seen one of them swim before a ship for five hundred leagues. It is from this circum-

stance that they have the name of Pilot-fish. Small as this fish is, not more than six or eight inches in length, it is able to keep pace with a ship, even through its swiftest course.

It has somewhat the shape of a mackerel. The head, and particularly the snout, is long. In front of the dorsal fin, which extends nearly to the tail, there are four spines. The gill-membrane has seven rays. The body is of a golden brown colour, marked with several transverse black belts.

12. MACKEREL TRIBE.

These fish are seldom found but in immense shoals. Some of them are migratory, and make long voyages at certain seasons of the year. There are about twenty-five species.

Common Mackerel. The shoals of Mackerel which frequent the British coasts, are numerous beyond all conception. They arrive about the middle of summer. The Mackerel fishery is an object of considerable importance to the inhabitants of most of the maritime countries of Europe. These fish are chiefly caught by means of nets; but they will also eagerly seize a bait of red cloth, if suspended upon the surface of the water from a boat in motion. Mackerel die almost immediately after they are taken out of the water, and they soon become putrid. Hence it is, that in the Roman Catholic countries they are permitted to be sold on the festivals, and in London to be cried about the streets on Sundays. When pickled, or salted, these fish may be kept good for a considerable length of time. Mackerel spawn about the month of June, depositing their eggs amongst

rocks and stones. In the Mediterranean their roes are used for *caviar*; and from these fish the Romans prepared their celebrated pickle called *garum*, which was used as a sauce with different kinds of food. In the spring of the year the eyes of Mackerel are covered with a white film, which grows during the winter; but which they always cast towards the beginning of summer.

The Common Mackerel are distinguished from every other fish of their tribe, by having five distinct small or spurious fins above and below the body, near the tail. They do not often exceed the weight of two or three pounds. When alive their colours are peculiarly brilliant and beautiful: the back and sides, above the lateral line, being of a fine green colour, varied with blue, and marked with black transverse lines. All the under parts of the body are silvery.

Thunny, or Albicore. This is a large species of mackerel, sometimes measuring so much as ten feet in length, and weighing betwixt four and five hundred pounds. They are occasionally caught on the British coasts, but are much more common in the Mediterranean than any other sea. Here the Thunny fishery occupies the attention of vast numbers of the inhabitants of the adjacent coasts. These fish swim in shoals, and are said to approach the shores in the form of a triangle, so as to cut the water with its point, and to present an extensive base for the tides and currents to act against, and impel forward. Their chief prey consists of herrings, mackerel, and other kinds of fish. They are migratory, or fish of passage, and enter the Mediterranean about the latter end of March. Those that are caught during the month of May are generally full of

spawn, and during this season they are esteemed unwholesome. The rapidity with which these fish are able to swim, is fully proved by a shoal of them having been known to follow a vessel all the way from the Brasils to the Straits of Gibraltar, during a voyage of only eight days. The flesh of the Thunny, when cut into pieces, has much the appearance of raw beef; but, when boiled, it turns pale, and has somewhat the flavour of salmon. By the ancient Romans these fish were held in great esteem, and constituted an important branch of commerce.

The body of the Thunny is round and thick, tapering nearly to a point both at the head and tail. There are about eight spurious fins above and below the body, near the tail, which is crescent-shaped. The upper parts are black; and the sides and belly silvery, tinged with light blue and pale purple.

Scad. In several parts of Devonshire and Cornwall this beautiful fish has the name of *Horse Mackerel*. It is a predacious and migratory species, appearing in numerous shoals on the sea-coasts of different countries of Europe, as well as those of the East Indies and America. When properly cured its flavour is said to be so excellent, that, in some countries, it is called the *Mother of Anchovy*.

In these fish, which measure from eight inches to two feet in length, the spurious fins are united; on the back there is a recumbent spine; and the lateral line is broad and prickly. The head and upper parts of the body are varied with green and blue, and the belly is silvery.

13. SURMULLET TRIBE.

Surmullets are in great request as food. There are six known species, of which two only are found on the British coasts.

Red Surmullet. By the ancient Greeks and Romans these fish were in such esteem, as to be admitted only to the tables of the rich and the luxurious. Most of the Roman writers speak of them in terms of praise, on account of their excellent flavour. From what Juvenal has stated, we may judge of the high price for which they were sold, he having given for one of them its weight in silver. And Suetonius assures us, that one of the Roman emperors purchased three Surmullets for a sum equal to more than £240 of our money. The head and the liver were the parts chiefly admired. The Surmullet is a voracious fish, devouring, indiscriminately, almost every kind of animal or animal substance which comes in its way. It is sometimes caught off the coasts of Scotland and the west of England.

The length of this fish is generally about eight or nine inches. The head is large and broad, having two beards near the end of the lower jaw. The body is thick on the fore part, and is covered with large scales. The back and sides are red, the belly silvery, and the fins yellow.

14. GURNARD TRIBE.

There are about fourteen species of Gurnards, five of which are inhabitants of the shores of this country.

Gray Gurnard. Formed with a large and bony head,

and wide and expansile jaws, these fish are, for their size, not only tremendous in appearance, but commit great devastation among the other scaly tribes, as well as among all kinds both of testaceous and crustaceous animals. They continue chiefly near the bottom of the sea, and are easily to be caught by means of lines, baited with a piece of a fish, or a bit of red cloth; but the most general mode in which they are taken is with nets. They deposit their ova in the month of May or June, in places not far distant from the sea-shores. Their flesh, though somewhat insipid, is white; and they are in much request for the table.

The Gray Gurnard usually measures from one to two feet in length. The back is of a dusky green colour, spotted with white, yellow, and black. The belly is silvery. At the extremity of each gill-cover there is a sharp and strong spine. The lateral line is composed of large and rough scales, is black in the middle, and white at the edges.

Flying Gurnard. The pectoral fins of these fish are so large, that, by means of them, they are able to rise out of the water, and fly, to the distance of several yards, in the air. This they do for the purpose of escaping from the pursuit of their enemies of the deep. They are very numerous in the Mediterranean, and are often brought for sale to the markets of Sicily and Malta.

ORDER IV. ABDOMINAL FISH.

15. SALMON TRIBE.

All the species of Salmon are in great request as food. Some of them attain a very large size, and others do not

exceed the length of three or four inches. They are principally distinguished by having a small, soft fin on the upper part of the body, near the tail.

Common Salmon. These fish, at a certain season of the year, pass from the sea up the rivers, for the purpose of depositing their spawn in places far out of the reach of the salt water. In these peregrinations they are observed to brave every danger, and frequently even to spring to the top of cataracts, and overleap obstacles which are several yards in height. Arrived at the barrier which opposes their progress, they swim a few paces back, survey it motionless for some minutes, retreat, and again return; then curving strongly their body, and collecting all their force, with one astonishing leap surmount and overcome the difficulty. It is in these voyages that the Salmon are caught which supply our markets and tables. After they have deposited their spawn they return to the sea, and are in so lean and emaciated a state, that their flesh would be nearly as unpalatable for food as carrion. In this state their powers of motion also are so weak, that, lying in holes near the banks of a river, I have seen them turned round with a pole or stick, without appearing to have any power either of escape or resistance. Salmon prey upon fish, worms, and insects. The Salmon which are caught in the river Thames are accounted better than those produced from any other river in England, and generally bring a most extravagant price at the London markets. The Severn Salmon are usually considered to be earlier in season than any other, though they are certainly not so early as those of some parts of Scotland and Ireland. At Berwick vast quantities of Salmon are annually caught. These are pickled, packed in small

tubs, and sent to London for sale. In other parts Salmon are split, salted, and dried. So numerous are these fish in some places, that, in the year 1750, as many as 3,500 were caught at a single haul in the river Ribble; and, in the river Tweed, from fifty to a hundred at a haul has been by no means unfrequent. Mr. Pennant states, that the largest Salmon he ever heard of, was one which weighed seventy-five pounds. These fish are unknown in the Mediterranean, and in the seas and rivers of warm climates; but they are caught as far northward as Greenland, and are extremely common on most parts of the coast of America.

The Common Salmon are distinguished from all others of their tribe, by the upper jaw extending beyond the lower one, and the body being spotted.

Salmon Trout or Sea Trout. Like the salmon, these fish migrate from the sea into fresh-water rivers and streams, for the purpose of spawning; and after that operation return to the sea. They are partial to deep holes, and usually shelter themselves beneath the roots of trees. Their flesh is white, and not so highly flavoured as that of the salmon. They continue in season during the whole summer.

They are known by having on their body numerous black spots, each encircled with brown; and six dots on the pectoral fins. They seldom exceed the length of eighteen or twenty inches.

Common or River Trout. The voracity of the River Trout is well known to every angler. It seizes with avidity small fish, worms, snails, and insects. It frequents principally clear, cold, and mountainous streams; but is likewise found in rivers and brooks of level

countries. It swims with wonderful strength and rapidity; and sometimes leaps to a great height out of the water. Like the salmon, it ascends the rivers for the purpose of depositing its spawn, and is principally in season from the beginning of March to the end of September. The weight of this species does not often exceed six or seven pounds. Although very common in most parts of the continent, it is remarkable that none of the ancient writers, except Ausonius, have at all spoken of these fish.

Their under jaw is somewhat longer than the upper one; and the body is marked with numerous red spots.

Char are caught in some of the larger lakes of Westmoreland and Cumberland; in Llyn Cwellyn, near Snowdon; and in Loch Inch, and other neighbouring lakes of Scotland. It is seldom that they are known to enter the streams, but continue almost entirely in the larger waters. They spawn early in the spring; and are caught in nets, generally during the winter season. Great numbers of them are potted, and every year sent to London. In this state they are more esteemed than any other fish of the tribe. The fishermen distinguish as many as four different kinds, which they denominate Case Char, Gelt Char, Red Char, and Silver or Gilt Char; but these are nothing more than varieties of the same species. Char are very common in the lakes of several parts of Switzerland, Lapland, and Sweden.

Their length is about ten inches or a foot. The jaws are of equal length. In colour they vary considerably: but in general the back is black; the sides are bluish, with small red spots; and the belly is yellow.

Smelt. The name of these fish has been derived from their very peculiar scent, somewhat resembling cucumber, and is evidently a contraction of the words "smell it." They inhabit the seas of the northern parts of Europe, but do not at all emigrate into hot climates. Previously to the season of their spawning, they enter the rivers; and in the Thames and the Dee are caught in great abundance, from the beginning of November until the end of January. There are few fish more delicious or in greater esteem for the table than these.

Smelts vary considerably in size. They are seldom known to exceed the weight of half a pound, and are generally much smaller. The head is blunt at the extremity, and transparent. The dorsal and anal fins are opposite, and the latter contains seventeen rays. The skin of the Smelt is so thin, that, with a good microscope, the circulation of the blood may be observed. The under jaw is the longest, and in front of the upper jaw there are four large teeth. The scales are small, and easily drop off. The back is whitish, with a cast of green: below this the sides are varied with blue; and the belly is silvery.

Umber or Grayling. The rapidity with which these fish shoot along through the water is such, as to have given them the name of Umber, (or Umbra,) implying a shadow. They delight in clear and rapid streams, feed principally on insects and worms, and rise eagerly at the angler's bait. In some places they are in great esteem as food: their flesh is white, and they are eatable at all times of the year, but are considered best in season from September to January. During the winter they are seldom seen; but they begin to be active about the month of April. Soon after this the females deposit their ova

or spawn. Umber are found in Derbyshire, Shropshire, and Hampshire, but in this country are by no means a common fish. In the rivers of Lapland they are extremely numerous.

These fish have sometimes, though rarely, been known to weigh more than four pounds. The teeth are so small as scarcely to be visible. The upper jaw is longer than the lower one. The rays in the dorsal fin are twenty-three in number. The head is dusky, and the gill-covers are glossy green. The back and sides are of a fine silvery gray. The scales are large, and form straight rows from the head of the fish to its tail. The lateral line also is straight.

16. PIKE TRIBE.

The mouth and throat of these fish are excessively wide, and the former is thickly beset with large and pointed teeth. Some of them are found in the ocean, and others in fresh water.

Common Pike. The voracity of the Pike is proverbial. Like the shark, they commit the most savage devastations on all the weaker inhabitants of the water. Their appetite is insatiable, swallowing with avidity the most putrid garbage, and sometimes devouring even their own species. They are found in rivers, lakes, and ponds of almost every country of Europe. They live to a great age, and are known sometimes to arrive at an immense size. A Pike was killed in Scotland, a few years ago, which measured more than five feet in length, and weighed fifty-four pounds. In some parts of the continent they become even larger than this. These fish do not all spawn at the same season; but some of them deposit their ova as

early as the end of February, whilst others are as late as the month of April. Pike thrive best in smooth, still waters, where they have plenty of food ; and they may be caught with hooks and lines in various ways. They are good eating, but bony ; and differ much, according as the waters which they inhabit are muddy or clear. We are told by a celebrated German writer, that these fish are so tenacious of life, that their belly may be opened and sewed up again without killing them. He says that “ this is a frequent practice in England, for the purpose of ascertaining whether they are fat or not ; and that, if they are not fat, they are again put into the water ! ”

The Common Pike is chiefly distinguished from the other fish of its tribe by having its snout depressed, and the jaws nearly equal in length.

Gar Pike. It is a singular circumstance relating to these fish, that when boiled their bones are of a green colour. They arrive on our coasts, in considerable shoals, towards the beginning of summer, and are generally considered to be the forerunners of the mackérel. Their motions are tortuous like those of the eel. They were well known to the ancients, and are described by several of their writers.

The length of the Gar Pike is sometimes more than three feet. Its form is round and slender. The jaws are very long, slender, and sharp-pointed ; the under one considerably longer than the upper. The dorsal fin is on the very lowest part of the back. The tail is much forked. The colours of this fish, whilst in the water, are extremely beautiful : the back is of a fine green, the sides are changeable blue and purple, and the belly white and silvery.

17. FLYING-FISH TRIBE.

There are only three known species of Flying-fish. They are natives, chiefly, of the seas of hot climates.

Common Flying-fish. These are very brilliant and beautiful fish ; and their brilliancy oftentimes exposes them to attack, from their numerous enemies of the deep. They are equally the objects of pursuit to many of the larger kinds of fish, as well as to numerous birds of prey. In order to escape the attack of the former, they are able, by means of their long pectoral fins, to rise out of the water, and dart through the air to the distance of a bow-shot or upwards. But in this flight great numbers of them are frequently seized and devoured by the birds which are hovering about for the purpose. During this flight, also, it sometimes happens that whole shoals of them fall on board the ships which navigate the seas of warm climates. Flying-fish are so incapable of bearing cold that they are seldom seen so far north as this country. They are principally found in the tropical seas.

They somewhat resemble the herring in the form of their body ; but the back is flat, and not rounded. The pectoral fins, the instruments by which they have their motion in the air, are nearly as long as the body. The scales are large and silvery ; and the dorsal fin is small, and situated near the tail, which is forked.

18. HERRING TRIBE.

Nearly all these fish swim in shoals, and are pursued as food, not by mankind only, but also by various species of predatory birds and fishes. They are inhabitants exclusively of the ocean.

Common Herring. If we except the cod, there is no kind of fish which are more useful, or afford more abundant employ to the inhabitants of maritime countries, than the Herrings. The shoals of these fish which approach the coasts of this country, are numerous beyond all the powers of imagination. A single boat has frequently been known to catch more than ten thousand of them in one night. They are migratory, and usually begin to appear off the Shetland Islands about the months of April and May; but the principal shoal arrives in June. They gradually pass to the southward, and are caught off the coasts of Kent, Sussex, and Hampshire, about the month of November. The appearance of these fish is generally marked by the presence of a great number of sea-fowl of different kinds, which follow their track for the purpose of feeding upon them. Yarmouth, in Norfolk, is considered the great mart for Herrings: there was established there a fair for these fish, so early as the year 1358. The art of pickling Herrings was first invented in Flanders; and it is said, that in the Netherlands more than 150,000 people used formerly to make an entire livelihood by the catching, pickling, and trading in Herrings. And in our own country, many thousand families, on the different coasts, are wholly supported by the Herring-fishery. These fish are remarkable for dying almost immediately after they are taken out of the water; whence we have a common saying, "as dead as a Herring." They feed chiefly on small fish, marine worms, and the lesser species of crabs. Their period of spawning is the beginning of winter, and they are extremely prolific.

The usual length of the Herring is ten or twelve inches. The under jaw is longer than the upper one.

The sides are compressed, and the belly is sharp beneath. The scales are large and thin, and fall off with the slightest touch. If taken up by the dorsal fin, the Herring remains exactly balanced. The colour of the back and sides is green, varied with blue; and the belly is silvery.

Pilchard. These fish are migratory, and likewise approach our shores in immense shoals. They are more numerous in the counties of Cornwall and Devon than in any other parts of England. To the inhabitants of these counties, and of Cornwall in particular, they afford, during the summer-season, an abundant source of profit, and employment for industry. The Pilchards generally begin to appear about the middle of July, and continue almost until the winter. It will afford the reader some idea of the great multitudes of this fish, to be informed, that on the 5th of October, 1767, there were, in St. Ives Bay, Cornwall, as many as 7000 hogsheads, containing, in the whole, more than two hundred and forty millions of fish. They are caught by means of nets, which are so large as to be sometimes two hundred fathoms in circumference, and about eighteen fathoms deep. In almost all their habits they are nearly allied to the herrings.

They are, however, in general, not quite so large. Their body also is more round and thick. The nose is somewhat turned up at the end. The scales adhere firmly to the skin, whilst those of the herring easily drop off. If the Pilchard be taken up by the dorsal fin, the front part is found the heaviest.

Sprat. To the poorer part of the inhabitants of London, the Sprat, small as it is, affords a cheap, pala-

table, and nutritious food. So immensely numerous are these fish on some coasts, that as many have been caught at a single haul of a large net, as would fill nearly forty barrels. On several parts of the coasts of Holland and France, the fishery for Sprats is nearly as important as that for herrings. From the Mediterranean, but chiefly from the island of Sardinia, these fish are exported in barrels, to almost all parts of the world; and they are considered not much inferior to the anchovy. Sprats usually enter the river Thames towards the latter end of October, and leave it about the month of March.

There seems considerable doubt whether the Sprat is or is not the herring in its young state. It is seldom more than four or five inches in length. The dorsal fin is situated at a greater distance from the nose than that of the herring; and the belly is strongly serrated, or appears rough to the finger when passed gently along it.

Anchovy. In a pickled state, few fish are better known than these. They are, however, seldom caught in this country. The principal fishery for them is at Gorgona, a small island west of Leghorn. Like the herrings and sprats, the Anchovies leave the depths of the open sea, in order to frequent the shallow parts of the coast, for the purpose of depositing there their spawn. This usually takes place betwixt the months of December and March, and it is during this season that they are principally caught.

These fish are usually five or six inches in length. They are proportionally thicker in the body than the herring. The under jaw is much shorter than the upper one. The dorsal fin is transparent, and consists of twelve

rays; and is situated nearer the head than the tail. The scales are large. The back is green, and the sides and belly are silvery.

19. CARP TRIBE.

The fishes of the present tribe prey chiefly upon worms, insects, and other fish. Some of them are migratory, and most of them spawn about the month of April or May.

Common Carp. These fish were originally introduced to this country from the continent, about three hundred years ago. They are, however, now found in several of our still and gently-flowing streams. In ponds they readily breed and multiply, and are found very useful for the supply of the table. They are so shy and cunning, as seldom to be caught except in nets; and so tenacious are they of life, that, wrapped up in wet moss, they have been kept out of water for more than a fortnight. They are long-lived, having in many instances been known to attain the great age of a hundred years and upwards.

The average weight of these fish is four or five pounds, but they have sometimes been known to weigh so much as twenty pounds. Their body is deep, and the scales very large. On each side of the mouth there is a short beard, and above each of these is another. The anal fin has nine rays, and the second ray of the dorsal fin is serrated at the back. When just taken out of the water, these fish are of a fine greenish golden hue.

Barbel. Inhabitants principally of deep rivers, the

Barbels are said to obtain at least a considerable part of their food by rooting, like swine, with their noses, in the soft earth and mud of the banks. They associate in considerable shoals, and are so tame that they may sometimes be caught with the hand. The flesh of the Barbel is so coarse as to be of no esteem as food.

They are of a long and rounded form, and sometimes weigh so much as sixteen or eighteen pounds. The mouth is situated beneath the head. At each corner there is a single beard, and another on each side of the nose. The anal fin has seven rays, and the second dorsal fin is serrated on both sides. The scales are of a pale gold colour, edged with black; and the belly is white. The pectoral fins are brown; the ventral and anal fins are tipped with yellow, and the tail is purple.

Gudgeon. In clear streams, where the bottom is gravelly, these little fish are frequently to be seen swimming in small shoals. They never rise high in the water; but feed near the gravel, on worms, or the young fry of other fish. They eagerly seize a bait, and are to be caught even by the most inexpert angler with great ease; particularly if the bed of the stream be raked or stirred up, since they will eagerly collect round the place, for the purpose of feeding. They spawn in May, and are very prolific. Their flesh is white, and excellent eating.

The Gudgeon seldom exceeds the length of eight inches. Its head is large, and body round. At each corner of the mouth there is a short beard. The dorsal and ventral fins are directly opposite to each other. The anal fin has eleven rays, and is spotted with black; the back is of an olive colour, spotted with black; the sides are silvery and the belly is white.

Tench. This is amongst the best of the fresh-water fish. It is partial to still waters, where the bottom is muddy, and where it can have shelter among rushes and weeds. In ponds it is found a very useful and profitable species.

It weighs from two to eight or ten pounds, and is short and thick in proportion to its length. The scales are small, and covered with slime. There is a small beard at each corner of the mouth. The back is dusky, and the belly greenish gold. The tail is rounded, and the anal fin contains twenty-five rays.

Gold Fish. It is said that these brilliant and beautiful fish were first imported from China into Europe in the year 1691. Though natives of the hot climates of the east, they live through the winter in our ponds, and without appearing to suffer by the cold. Not only in this country, but in China, they are kept in glass or earthenware vessels, on account of their beauty, and for the purpose of ornament. In these vessels they are occasionally fed with a little bread or flour; but if the water be regularly changed, they will live for many months without any apparent sustenance. The young fish are at first black; afterwards they change to white, and then to gold colour.

The length of these fish is generally from six to about eight inches. Their colour, when full grown, is a brilliant golden red. They are shaped somewhat like a roach, and have two anal fins. The caudal fin is transverse, and generally divided into three parts.

Minow. These little fish, which love to swim in shoals near the surface of the water, first appear about the end of March, and continue till Michaelmas. During the winter-

time they retire into deep places, among weeds or the roots of trees. Notwithstanding their smallness, they are caught in fine meshed nets, and, in some places, are made into what are called *minow tansies*, which are considered excellent eating.

The body of the Minow is smooth and slender. The lateral line is of a golden colour. The back is deep olive; and the sides and belly vary considerably in colour. The tail is forked, and has a dusky spot near the base. The anal fin has eight rays. The length of the Minow seldom exceeds three inches.

Dace. Lively and active in a very great degree, these fish are to be seen throughout the summer months, near the surface of rivers and streams, seizing flies and other insects, which float upon the water, or skim along its surface. They spawn about the month of March, and are very prolific. As food, they are considered an insipid and bony fish.

Dace do not often exceed the length of eight or ten inches. The head is small, the body long and slender, and the tail forked. The anal fin contains eighteen, and the dorsal fin nine rays. The back is of a dusky yellowish green, and the sides and belly are silvery.

Roach. In nearly all its habits the Roach has a great resemblance to the dace; and is generally found in the same waters, though not always so near the surface.

These fish are deep, but thin, and the back is much elevated, and sharply ridged. The tail is forked, and there are twelve rays in the anal fin. The scales are large, and the lateral line bends towards the belly. The back is of a greenish black, and the ventral fins are of a blood-red colour.

Bream. In slow and deep rivers, as well as in lakes, where the bottom is of marl, clay, or plants, these fish are most commonly found. They grow quickly, and are very tenacious of life. Their flesh is but little esteemed as food.

Instances have been known of Bream attaining more than two feet in length. Their body is deep, and the back is much curved. The head and mouth are small. The anal fin has twenty-seven rays, and the tail is crescent-shaped. The back and fins are of a dusky colour; and the sides and belly are yellowish.

ORDER V. BRANCHIOSTEGOUS FISH.

20. TETRODON TRIBE.

The Tetrodons are inhabitants principally of the Indian Seas. There are about fourteen species.

Short Sun-fish, or Diodon. The form of these fish is so extremely singular, that in Germany they are called by a name which implies *the Swimming Head*, and in some other parts of the continent are denominated *Mill-stone Fish*. They are sometimes, though rarely, found in the seas near the British coasts; but they are not uncommon in the Mediterranean.

These fish have been known to weigh as much as four or five hundred pounds. The body is broad and flat, and the head is scarcely distinct from the body. The mouth is small, and somewhat curved, like the beak of a bird. The fins are small; and the pectoral ones have a direction very different from those of other fish, for they are hori-

zontal, and not perpendicular. The aperture of the gills is oval. The general appearance of the Sun-fish would remind a casual observer of a bream, or some other deep fish, cut in two.

The Globe Diodon. The mode in which these fish defend themselves from the attack of their foes is very singular. Their belly is beset with spines; and the moment they are alarmed they blow themselves up until they are nearly of a globular shape. In this state they have an extremely formidable appearance. They are inhabitants of the seas of warm climates; but have in a few instances been found near the British coasts.

Their length is about eighteen inches, and the form of their body is generally oblong. The mouth is small. The back is of a deep blue colour, and the belly and sides are white. The tail and fins are brown.

21. PIPE-FISH TRIBE.

The Pipe-fish are found on the sea-shores. Under their tail there is a longitudinal groove, in which their eggs and young ones are concealed until the latter are in a sufficient state of maturity to provide food, and seek shelter for themselves.

Shorter Pipe-fish. The ancient writers on the subject of natural history were not unacquainted with these fish. They are mentioned both by Pliny and Aristotle. Fishermen often catch them in their nets upon sea-shores; but as they are not used for food, they are entirely neglected, except for the purpose of bait for other fish.

The Shorter Pipe-fish is generally from eight to twelve inches in length. In some of the individuals, the middle

of the body is six, and in others five-sided. The snout is very long, compressed at the sides, and turns up at the extremity. The anal and pectoral fins are radiated, as is also the tail. The body is covered with a strong crust, elegantly divided into small compartments. The colour is yellowish-brown, lighter beneath than above.

The Sea-horse Pipe-fish, or Hippocamp. In a dried state, this little animal is very common in almost all cabinets of natural history. From its shape in this state it is that its name has been derived. When alive it is straight, like the other species of Pipe-fish; but when dead it shrivels up, somewhat into the shape of the letter S, and the head, being then inflected, it has a fancied resemblance, in shape, to a horse. In its habits this fish differs little from the rest of the tribe, and is found in similar situations in the sea. It is very common in the Mediterranean, and also in the Indian Seas.

The Hippocamps are from eight to twelve inches in length. The tail is four-sided, and without any fin at the extremity. The body is seven-sided, covered with tubercles, of a brown colour, variegated above, on the fore part, with white and black streaks, and behind with dots. The sides are much compressed.

22. SUCKER TRIBE.

These fish inhabit the sea, where they feed on marine worms, small crabs, and other animals. They have the power of adhering so firmly to rocks and stones, that it is sometimes a very difficult matter to remove them.

Lump Sucker. There is on the breast of this fish a large oval aperture, by means of which it is able to adhere so firmly to stones, rocks, and other solid bodies, that all the force of the waves is unable to detach it. One of these fish, just after it was caught, was thrown into a pail containing several gallons of water; and it fixed itself so strongly to the bottom, that, on taking it by the tail, the whole pail, with its contents, were thus lifted up, without removing the fish from its hold. The Lump Suckers are found in almost all the rocky parts of the Northern Seas, and are very common on the shores of several parts of our island. They spawn in the months of April and May; and are so prolific, that the roe of one of them has been known to contain as many as 207,700 eggs. Their flesh is soft and unctuous; and, in flavour, is said to be not much unlike that of salmon.

They are very broad and thick, and, when full grown, are of the length of eighteen inches or two feet. The body is angular, and has several rows of sharp and bony tubercles. The belly is flat and broad. The whole skin is rough, and beset with small tubercles. The pectoral fins, which almost unite at the base, are large and broad. The upper parts of the body are of a greenish-brown colour; and the belly is sometimes the same, and sometimes of a bright crimson.

23. FISHING-FROG OR ANGLER TRIBE.

The Fishing-frogs have a naked and viscous body. Their head is flat, and their teeth are sharp and numerous. Some of the species are of large size.

Common Angler, or Frog-fish. The tremendous head and mouth of these animals are sufficient indications of

their excessive voracity. They are usually from three to five feet in length ; and, of one of them caught near Scarborough, the mouth was a yard wide. The fishermen have a sort of veneration for them, from the circumstance of their being supposed to destroy great numbers of dog-fish. They are chiefly found in the rocky parts of the sea ; and in their appearance are extremely ugly and disgusting.

Their body is depressed ; the head rounded at the extremity, and much larger than the body. The under jaw is longer than the upper one. On each side of the upper jaw there are two sharp spines, and others are scattered about the upper part of the head. Above the nose there are two long and tough filaments, and on the back three others. Along the edges of the head and body there are a great number of short fringed fins, placed at equal distances. The colour of the upper part of the body is dusky, and of the lower parts white. The skin is smooth.

ORDER VI. CHONDROPTERYGIOUS FISH.

24. STURGEON TRIBE.

Sturgeons are fish of large size, measuring from four to eighteen or twenty feet in length. They are inhabitants of the sea, but annually ascend the rivers, for the purpose of depositing their spawn.

Common Sturgeon. In nearly all ages these fish have been highly esteemed as food. They sometimes attain

the great length of sixteen or eighteen feet, and the weight of nearly five hundred pounds. At a certain season of the year they enter the great rivers ; are not unfrequently caught in the salmon-nets ; and are easily brought to the shore, from the circumstance of their offering no resistance, but, when entangled, appearing almost like an inanimate lump. From May to July they are found in vast abundance in the rivers of North America. And it is stated that they sometimes leap to a great height out of the water ; and, as they fall on their sides, make a noise which in still weather, may be heard to the distance of several miles. Great quantities of pickled Sturgeon are every year exported from the Baltic, and also from North America. The roes of these fish are salted and dried, and, thus prepared, have the name of *caviar*.

The snout of the Common Sturgeon is obtuse, and the mouth is equal in width and length. The four beards are near the end of the snout, and the lips are cleft. The eyes are very small. The body is five-sided, and covered with five rows of large bony tubercles. The whole under side is flat. The tail is forked, but the upper part is much the longest. The back and sides are of a dirty olive colour, and the belly is silvery. The centre of each tubercle is white.

The Beluga, or Isinglass Fish. This species grows to a larger size than the last, sometimes attaining the length of more than twenty-four feet. They are found in great abundance in the Danube, and in several of the Russian rivers. In almost every respect the habits of the Beluga resemble those of the common sturgeon. They are caught principally for the sake of their skin, entrails, and tail, which are made into *isinglass*. The flesh also is sometimes salted or pickled for food.

The Beluga differs from the last species chiefly in having the lips entire, and the mouth considerably narrower than it is long.

25. SHARK TRIBE.

This is a numerous and most destructive tribe. Some of the species are of such immense size, as to weigh from one to four thousand pounds each. A few of them swim in shoals, but by far the greater part are solitary. Their young ones are produced each in a square horny case, terminated at the four corners by a slender filament.

White Shark. The savage voracity of these immense animals is such as to render them the dread of every one. Of an enormous length and bulk, and of powers of motion greater than those of most other fish, they eagerly seize upon and devour every kind of animal or animal substance which comes within their reach. In numerous instances, mankind have fallen a prey to their insatiable appetite. The consequence of this is a great fear, in all seamen, of bathing in any of the seas where they are at all common. The late Sir Brook Watson, Bart., was an instance of the danger of this; for, in swimming in the West Indies, a Shark snapped off one of his legs, before his companions had time to warn him of the danger. The mouth of the Shark is of the most dreadful appearance, containing six rows of teeth, which are capable of being raised and depressed at pleasure. It is, however, so situated under the head, that the animal is unable to seize upon its prey, in any other position than by throwing itself on one side, which not unfrequently affords time for escape. The flesh of

the Shark is sometimes eaten on long voyages, and in the absence of better food. Its skin is manufactured into *shagreen*, a kind of substance chiefly used for the covering of instrument cases.

The eyes of these animals are large, and the back is broad and flat. The pectoral fins are very large; and the tail is somewhat crescent-shaped, but longer in the upper than the lower part. The teeth are triangular, and serrated at the edges. The White Sharks have an anal fin. The whole body and fins are of a light or bluish ash colour.

Dog-fish. So voracious are these animals, that they are frequently known to follow ships to a great distance, for the purpose of feeding on anything eatable which is thrown overboard, and which they seize with astonishing avidity. They also pursue the shoals of haddocks, whittings, and cod, for the purpose of feeding upon them. They abound in almost all seas.

Their usual length is from three to four feet. The nose is short and blunt; and the nostrils are large, placed near the mouth, and each covered with an angular flap. The head is flat. The mouth contains four rows of small teeth. The upper parts of the body are brown, marked with several large black spots. The under parts are white.

Angel Shark, or Monk-fish. The name of Angel Shark has, no doubt, been given to this fish ironically, on account of its extreme deformity. In its habits of feeding it resembles the rays, as it chiefly subsists on flounders, and other kinds of ground-fish. It is a very fierce and dangerous animal; and in some cases has been known to attack mankind. The skins of these fish, when put into

shape and stuffed, have, in several instances, been imposed upon the credulity of the ignorant, as the skins of the mermaid.

In weight the Angel Shark generally exceeds a hundred pounds. The head is large, and the eyes are small. The pectoral fins are very large, and have a distant resemblance to wings. The back is of a pale ash colour, and very rough; and the belly is white and smooth. Along the middle of the back there is a prickly, tuberculated line.

26. RAY TRIBE.

The Rays are inhabitants only of the sea. From their flat shape they chiefly swim near the bottom of the water; and, during the winter, cover themselves there with sand or mud. Some of the species grow to an immense size.

Torpedo, or *Electric Ray*. Lurid in its appearance, and voracious in its habits, the *Torpedo* obtains its prey by concealing itself in the mud at the bottom of the sea, and benumbing it, with nearly the same effect as that communicated from an electrical machine.

“Conscious of secret power, a gift divine,
On sands, as dead, the Cramp-fish lies supine;
Thus, careless stretch’d, a wide destruction makes,
And wand’ring shoals without her labour takes.”

The powers of the *Torpedo* are such, that it is able to give a shock for forty or fifty times successively, and with little diminution of force, to several persons who take hold of each other’s hands. And, if touched with only one finger, the shock is so great, as to be felt through both the arms. In the winter season these powers are

by no means so great as during the summer; and they are also gradually impaired as the fish, after a certain time, increases in age, and, consequently, declines in strength. Torpedoes are frequently caught in Torbay, along with other flat-fish; and they are by no means uncommon on several other parts of the English coasts. They are likewise found in the Mediterranean Sea and the Persian Gulf.

They grow to a great size, weighing sometimes from sixty to eighty pounds. The head and body are indistinct, and nearly circular. The skin is smooth, of a cinereous brown on the upper parts of the body, and white beneath. The eyes are small, and situated near each other; and behind each eye there is a round spiracle, or breathing-hole, having six points in the inside. The mouth is armed with several sharp-pointed teeth.

Skate. There is no fish of the present tribe which is so much in request for the table as the Skate. It frequently grows to a large size. Willughby speaks of one so huge, that he says it would have served a hundred and twenty men for dinner. The eggs of these fish are a kind of square, flat bag, of a black colour. The empty shells are to be seen upon almost every shore. Skates usually swim near the bottom of the water, and chiefly avoid the rocky parts of the sea. They feed on crabs, lobsters, testaceous animals, and fish of various kinds.

The Skate is a well-known fish, of a flat and somewhat rhomboidal shape. Its teeth are sharp-pointed, and on its tail there is a single row of spines. In this respect it differs from the thornback, which has blunt teeth, and several rows of spines, both upon the back and tail. The

upper parts of the body are generally of a pale or marbled brown colour, and the under parts are white.

Sting Ray, or Fire-flaire. Numerous stories, of the most absurd kind, have been related by the ancient naturalists, of the fatal effects produced by the pointed spine at the side of the tail of the Sting Ray. Oppian has pretended that the venom issuing from it would even dissolve stone.

“All things must yield; the dire infection’s such,
The solid flint would moulder at the touch!”

It is true, that, with this weapon, which is serrated or jagged at the edges, the animal sometimes inflicts a bad and painful wound; but this is not owing to any venom which proceeds from it, but merely from laceration. In its general habits of life, the Sting Ray differs but little from the skate.

Its body is of a somewhat circular shape, and is smooth. The nose is sharp-pointed; and the mouth small, and furnished with blunt or granulated teeth. The tail tapers to a point, and, as before observed, has on one side a sharp, brown, and serrated spine. The upper parts of the body are of a dingy yellow, but somewhat lead-coloured towards the middle. The under parts are white.

27. LAMPREY TRIBE.

The Lampreys adhere firmly to rocks and other solid bodies, by their mouths, which are nearly circular, and are surrounded by a fleshy margin. Their bodies are eel-shaped, and slippery. They feed on worms, and all kinds of animal substances.

True Lamprey. So great is the delicacy of these fish, when potted or stewed, that they have been celebrated in almost all ages. Our monarch, Henry the First, was so excessively fond of them, that he died from a surfeit, in consequence of eating too heartily of them. Lampreys have circular mouths, and are able to fix themselves in a most adhesive manner, to rocks or stones. They feed on all kinds of animal substances, and are as little select in their choice of food as the eel. In the spring of the year they leave the sea, and enter the rivers for the purpose of depositing their spawn. Here they continue for a few months, when they return again to the ocean. On each side of the neck of the Lamprey there are seven openings, which serve the office of gills, and are, by many persons, mistaken for eyes.

These fish are sometimes three feet and upwards in length, and weigh as much as four or five pounds. Their body is round, and not much unlike that of the eel. The mouth contains from twelve to twenty circular rows of teeth. The second dorsal fin is distinct from the tail. The body is of a variegated green bluish and dusky colour on the upper parts, and whitish below.

CLASS V. INSECTS.

ORDER I. COLEOPTEROUS INSECTS.

1. SCARABÆUS OR BEETLE TRIBE.

The greater part of these insects are produced from grubs, or larvæ, as they are usually called, which live

under the surface of the ground, and feed on the roots of plants and other substances.

Cockchafer. The species which is best known is the Cockchafer. The grub of this insect becomes nearly of the thickness of the little finger, has a whitish body, six scaly legs, and a red head. It continues three years under the ground, and at last changes into a large and somewhat chesnut-coloured beetle, having its tail hard and bent downward, and a triangular white spot on each ring of the belly. Cockchafers are so numerous in some years, as to destroy nearly all the leaves of the oaks, willows, and other kinds of trees. Their horns, or antennæ, are very curious, folding together like the leaves of a book: they are always opened when the insects are moving about, and closed when they are at rest.

Hercules Beetle. To this tribe also belong the Hercules Beetles, which are found in great abundance in several parts of South America. They measure betwixt five and six inches in length, and are the largest of all known insects. The horns are extremely long; the upper one projecting considerably beyond the lower, and being curved downward. The thorax is spiny, and the head black and shining. The elytra, or wing-cases, are of a greenish-gray colour, spotted with black, and black at the points.

2. STAG-BEETLE TRIBE.

The name of the Stag-beetles has been derived from the circumstance of their having two long and movable jaws, or maxillæ, which have a distant resemblance to the horns of a stag.

Great Stag-beetles, which are of a blackish-brown colour, and betwixt two and three inches in length, are not uncommon in several of the southern parts of England. They fly slowly, nearly in an upright posture, and are easily distinguished in their flight from all other insects. They are produced from grubs, which live in the trunks of decayed trees.

3. BORER OR PTINUS TRIBE.

Death-watch. Of this tribe, the most singular insect that we know is called the Death-watch. It is of a dusky colour, and about a quarter of an inch in length. In the spring of the year it makes a noise which somewhat resembles the ticking of a watch. This is done, at short intervals, by beating its head against any hard substance, in quick succession, for nine or ten times together. The noise which these insects make is only a call, or signal, by which the males and females are attracted to each other; consequently, any superstitious notion or fear of its being a signal of death, is in the highest degree absurd.

4. GLOW-WORM TRIBE.

There are several kinds of Glow-worms, but only one of them, the *Common Glow-worm*, is found in the British Islands. The male is winged, and the female destitute of wings. It is the latter which is seen to shine in the summer's evenings, amongst grass on the sides of banks and roads. The light in the female proceeds from the two last rings of the abdomen, and in the male from four luminous points. The utility of the bright light in the females is supposed to consist in attracting the attention of the males during the dark. The females lay a great number of eggs,

on the turf, or among the plants on which they live. These insects are generally seen in the months of June and July.

5. EARWIG TRIBE.

The Earwigs are distinguished from all other insects, by having their wings folded up, somewhat in the manner of a fan, under short wing-cases, and by the tail being armed with a forceps.

Common Earwig. There is a general prejudice against Earwigs, founded on a notion that these insects have been known to creep into people's ears, and occasion their death. Nothing, however, can be well more absurd, as the wax and membranes of these organs are a sufficient defence against any such attacks. The wings of Earwigs, when unfolded, are very large and beautiful. The grubs, or larvæ, are extremely active, from the moment they issue from the eggs. Both in this and their perfect state, they are very injurious in gardens, living among, and destroying in great quantity, both fruit and flowers.

ORDER II. HEMIPTEROUS INSECTS.

6. COCK-ROACH TRIBE.

These are chiefly nocturnal insects, and are seldom to be seen during the day.

Common Cock-roach. In kitchens and bakehouses of large towns, this species of Cock-roach are sometimes very numerous. They feed on flour, bread, and other

provisions. During the day-time they conceal themselves in holes and crevices of the floors. They are furnished with wings, and run about with great agility.

7. LOCUST TRIBE.

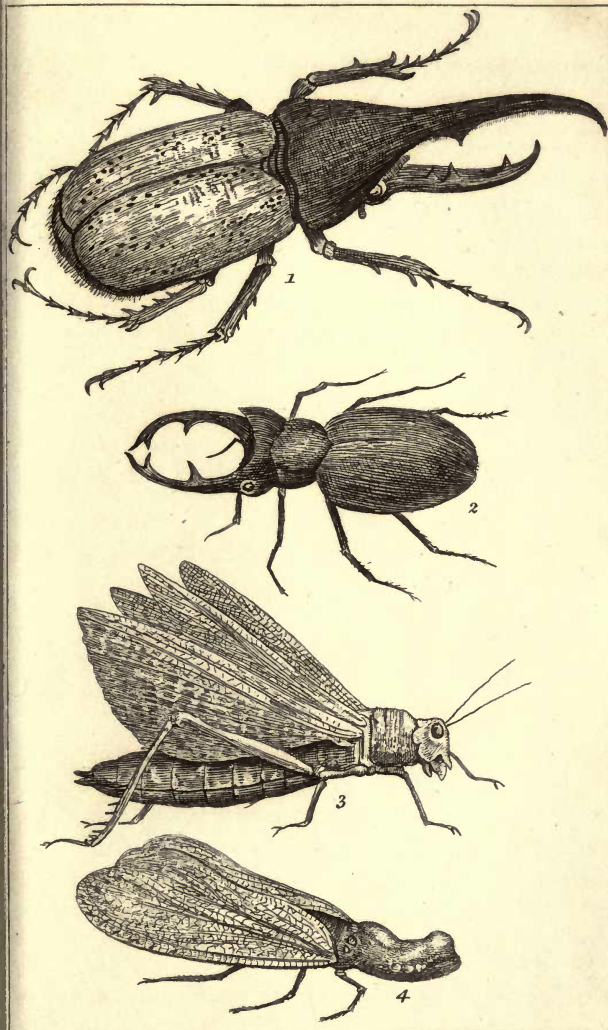
Most of the species of Locusts feed on plants, a few of them subsist on roots, and some on insects.

House Cricket. The noise which these insects make is well known, and, like that of all the other locusts and grasshoppers, is produced by the friction or rubbing of the wing-cases against each other. Like the cock-roaches, they conceal themselves during the day, and only issue from their retreats in the evening and night. They gnaw not only provisions, but clothes; and wet woollen stockings and linen hung to the fire, have sometimes been much injured by them.

Migratory Locust. In the Holy Scriptures there is frequent mention of these Locusts, which, in some parts of the East, are occasionally seen in such clouds as almost to cover the whole face of the country. Their ravages are oftentimes so great as to leave scarcely any traces of verdure in those provinces where they alight. The destruction committed by an army is not more fatal to the inhabitants than that committed by these insects. A few of them have, at different times, been found in this country, but in no case have they been known in sufficient numbers to do any serious injury.

8. LANTERN-FLY TRIBE.

The distinguishing characteristic of the Lantern-flies, is



1. *Hercules Beetle*
2. *Stag Beetle*

3. *Locust*
4. *Great Lantern Fly*



the fore part of the head being of very large size, hollow, and inflated.

Great Lantern Fly. The hollow, or lantern, on the head of these insects, is luminous in the dark; and so vivid, that a person might easily read by it. The use of this light is, no doubt, to point out the sexes to each other in the dark. The Great Lantern Flies are natives of South America, and are sometimes so large, as to measure betwixt three and four inches in length.

European Lantern Fly. This is a small species, which is sometimes, though rarely, found in England. The front of the head is conical, and the body green. The wings are transparent, and the under parts of the legs are red.

9. CIMEX OR BUG TRIBE.

Many of the Bugs subsist by sucking the juices of other insects, and of animals, but the greater part of them feed on plants. Nearly all the species have a strong and disagreeable smell.

Bed Bug. These nauseous and troublesome insects are mentioned by Aristophanes, and other Greek writers. They are generally supposed to have been first brought into England in the fir timber employed in rebuilding the city of London, after the great fire. They feed on blood, dried paste, size, deal, beech, or willows; but it is said that they cannot subsist on oak, walnut, cedar, or mahogany. Each female lays about fifty white eggs at a time, and this at no fewer than four seasons of the year. Bugs attain their full growth in about eleven weeks.

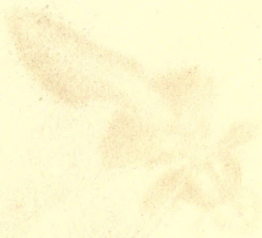
ORDER III. LEPIDOPTEROUS INSECTS.

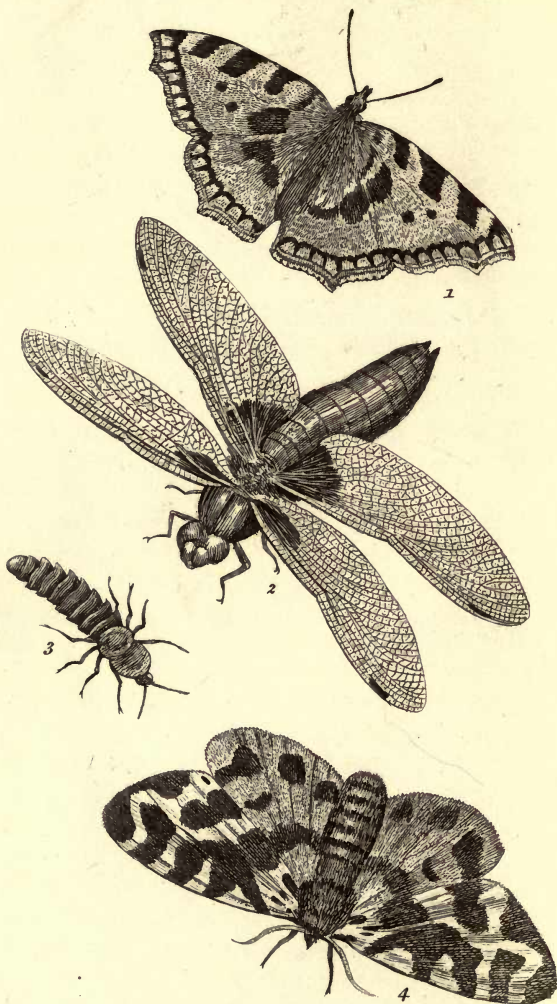
10. BUTTERFLY TRIBE.

Butterflies undergo three distinct changes; from the egg to the caterpillar state, from this to a chrysalis, and from the latter to perfect or winged insects.

Large White Butterfly. The caterpillars of this butterfly, which feed on the cabbage, are of a cinereous colour, with black spots, and marked with three yellow lines. They are chiefly to be found betwixt the months of June and October. The Butterflies deposit their eggs in clusters, in an erect position, on the under sides of the leaves. The caterpillars are sometimes so numerous, as to commit great devastations among the cabbages.

Nettle Tortoise-shell Butterfly. This and the last are the most common of all the English Butterflies. These first appear abroad about the month of April, and lay their eggs upon the tender parts of the stalks of nettles, in the beginning of the following month. The caterpillars, as soon as they issue from the eggs, form a web in which they find shelter from the winds and rain. As soon as they have attained their full growth, they fasten themselves by the tail under the leaves or to the stalks of the nettles, and, thus suspended, change into chrysalids. In this state they continue about twenty days, when they undergo their final change into Butterflies.





1. *Nettle Tortoise Butterfly*

2. *Dragon Fly*

3. *Glow Worm*

4. *Moth*

11. MOTH TRIBE.

Like the butterflies, these insects pass through three distinct states. The caterpillars of several of the species bury themselves in the ground, and there change into chrysalids; and those of others spin a silky covering, and under the protection of that, undergo their metamorphosis.

Silk-worm. It is stated that the Silk-worm was originally introduced into Europe from China and the East Indies. In our climates the eggs are generally hatched about the beginning of May, and the insects are so tender, that it is necessary they should be kept in rooms, or other sheltered places. The caterpillars are usually fed on mulberry or lettuce leaves, and attain their largest size about the middle of June. They now spin their case, or cocoon, as it is generally called, and of that silk which is afterwards spun, woven, and manufactured into various articles of dress and ornament. It is said to require as many as two thousand Silk-worms to make a pound of silk. In this cocoon the caterpillar changes to a chrysalis, and in about twenty days afterwards, if undisturbed, the moth becomes perfected, and issues forth from one of the extremities of its prison.

Clothes Moth. Furs and woollen clothes, which are not exposed to the air, are frequently much injured by the caterpillars of these insects. The parent moth lays its eggs upon them, and the caterpillars, as soon as hatched, form cases of the filaments of the fur or wool, which from time to time they enlarge, as their bodies increase in size. In these cases they undergo their change into chrysalids, and finally into perfect insects.

ORDER IV. NEUROPTEROUS INSECTS.

12. DRAGON-FLY TRIBE.

The bodies of the Dragon-flies are long and slender. Both in the larva and perfect state, their voracity is greater than that of any other insects of their size.

Great Dragon-fly. This is an extremely large and powerful insect, which, during the summer months, is frequently to be observed flying about in the lanes and roads, in pursuit of insects and other prey. The females drop their eggs into the water. These sink to the bottom, and not long afterwards are hatched. The larvæ, or grubs, which proceed from them, are so rapacious, that they have been called, by some writers, the Crocodiles of aquatic insects. When they are about to change to a winged state, they crawl out of the water; the skin of their back, after a little while, splits open, and a perfect fly issues forth from what was before a deformed and dingy reptile.

13. EPHEMERA TRIBE.

The name of Ephemera has been given to these insects, on account of the shortness of their lives. Some of the species live but for a day, and others, it is said, only for a few hours.

Common Ephemera or May Fly. It is stated that each of the females of this species lay as many as six or eight hundred eggs. These are dropped into the water,

and the larvæ or grubs, which issue from them, are a favourite food of many kinds of fresh-water fish. The perfect insects generally make their appearance about the beginning of June, and are frequently to be seen in the neighbourhood of the places which produced them, in the act of diverting themselves by flying about, ascending and descending with a kind of dancing motion in the air. In some parts of the continent May Flies are in such immense abundance, that their larvæ are taken out of the water in sufficient quantity to be employed as manure.

14. MYRMELEON OR ANT-EATER TRIBE.

Both in their larva and perfect state, these insects feed on ants and other insects. None of the species have hitherto been found in England.

Ant-lion. The larva or grub of the Ant-lion walks backward, and, with its abdomen and legs, forms a large, circular, and funnel-shaped cavity, in dry sandy places, at the bottom of which it conceals itself and lives. In this situation it waits patiently for its prey. If an ant or any other small insect happen to run over the edge, the sand gives way, and the Ant-lion, thus having notice of its presence, immediately throws up, by whirling about its horns, a quantity of sand, which generally overwhelms and brings the unfortunate insect to the bottom, and into the jaws of its foe. When the Ant-lion has attained its full growth, it spins a globular case or web, under the protection of which it undergoes its final change.

*ORDER V. HYMENOPTEROUS INSECTS.**15. WASP TRIBE.*

All the species of Wasps live in society. They form combs or hives, of a substance composed of wood reduced to a paste. In these combs the females deposit their eggs, and the young ones are produced.

Hornets are insects of large size, and, in their general appearance, not unlike wasps. They form their nests in decayed trees, or sometimes in old walls. The hole for entrance is seldom more than an inch in diameter. In these nests, the neuters, or working insects, are first produced, about the month of June. The males and females do not appear until near the month of September. The whole number of Hornets in one nest seldom exceeds a hundred, or a hundred and fifty. These insects are very voracious, seizing upon and devouring other insects, with great eagerness. The pain produced from their sting is much greater than that from the sting of a wasp.

Common Wasp. The nest of the Wasp, which is formed at the depth of six inches and upwards, under the surface of the ground, is of a roundish form, and twelve or fourteen inches in diameter. It consists of several stories of combs, each composed of many six-sided cells, for the purpose of containing the eggs and the worms which proceed from them. These cells do not, like those of the bees, contain either wax or honey.

Wasps' nests are formed of small fibres of wood, which the insects gnaw from posts, doors, the sashes of windows, or other old wood. Their commonwealth consists, like that of the hornets and the bees, of three different kinds of flies—males, females, and neuters. To the latter chiefly belongs the duty of forming the nests, and occasionally feeding the males, the females, and the young. Wasps feed very voraciously, on other insects, fruit, and even on butcher's meat. It has been computed, that a single nest of Wasps is capable of annually giving birth to as many as thirty thousand young ones.

16. BEE TRIBE.

So numerous are the different species of Bees, that more than two hundred kinds have been discovered wild in our own country. The greater part of them live in society, and form combs for the production of a numerous offspring.

Hive Bee. A hive of Bees generally contains from sixteen to twenty thousand insects, of which one only is a female, about 1500 are males, or drones, and the rest are neuters, or working-bees. The latter form the combs, make the honey, and feed the young ones. For the formation of the honey, they suck the nectareous juices of flowers. The female is called the *queen bee*, and is easily distinguished from the rest, by the size and shape of her body. These insects, like the wasps, are furnished with an acrid poison, and armed with a sting, which they use as a weapon of defence. This sting is wonderful in its structure. It consists of a hol-

o 2

1. *Tar*
2. *Scor*
3. *Hors*

low, and extremely sharp-pointed tube, having, at its root, a bag of pungent juice, which, in the act of stinging, is pressed out, and conveyed through the tube into the flesh. There are also two small, sharp, and bearded spears, which lie as in a sheath within the tube. On the outer side of each are several barbs, somewhat resembling those of fishing-hooks. These spears pass into the flesh before the sting or sheath which conveys the poison.

17. ANT TRIBE.

Each nest of Ants contains three sorts of insects : males, females, and neuters. The males and females are winged, and the others are destitute of these members. In hot climates, the species of Ants are sometimes so immensely numerous, as to commit the most injurious depredations.

Horse Emmet, or Great Hill-ant. In woods and thickets, the nests of Horse Emmets are frequently to be found. These are sometimes two feet and upwards in diameter, and composed of a vast collection of bits of dry sticks, straws, chips, and other rubbish. It is curious to observe the little creatures carrying and dragging along, even from a great distance, these substances, which, in size, are oftentimes greater than that of their own bodies. These ants are extremely attentive to their offspring, bringing them up nearly to the surface of the ground, every fine day during the summer-season ; and, in the evening, carrying them down again to such a depth, as to be out of the reach of injury from cold or moisture.

ORDER VI. DIPTEROUS INSECTS.

18. FLY TRIBE.

The greater part of the Flies live on putrid or filthy substances. Most of them are torpid during the winter.

Flesh-fly. As soon as that change takes place in animal substances, which approaches to putridity, these insects collect upon them, and there deposit their numerous offspring, in the shape of minute white grubs. When these have attained their full growth, which is generally in the course of seven or eight days, they quit their food, and wander in search of loose earth or rubbish, in which they bury themselves, and undergo their change, first to pupæ or chrysalids, and afterwards to perfect insects.

Cheese-fly. The grubs, or larvæ, of these insects, are well known in decayed cheese, by the name of *hoppers*. They proceed from eggs, which are deposited by the parent Flies in the crevices of the cheese. The powers of motion in the hoppers are very surprising. One of them, which was not the fourth part of an inch in length, has been known to leap out of a box six inches deep, or to a height equal to more than twenty-four times the length of its own body. A short time previously to their change into chrysalids, they crawl out of the cheese, and become stiff and lifeless. The fly afterwards bursts out, through an opening in the skin near the head.

19. GNAT TRIBE.

Most of the Gnats drop their eggs into the water, where, afterwards, the grubs are hatched, and reside until the period approaches for their change into winged insects.

Common Gnat. In low and marshy situations, Gnats are very numerous, and extremely troublesome. They make a piping or humming noise with their wings, which is oftentimes irksome where they abound, especially during the night. Their bite is painful, and in some persons is followed by unpleasant swellings and inflammation. The females deposit their eggs on the surface of the water; and the larvæ, or grubs, begin first to appear about the month of May. They are devoured in immense numbers by fish and water-fowl of almost all kinds; otherwise their increase would be such as to become seriously injurious to mankind.

The Musquito, so much spoken of by voyagers and travellers in the countries of hot climates, is nothing more than a large variety or kind of Common Gnat. It is the female only that sucks the blood.

ORDER VII. APTEROUS INSECTS

20. LOUSE TRIBE.

All these insects subsist on the juices of animals, which they extract by means of their mouth or sucker.

Common Louse. This filthy and disgusting creature harbours in the hair and clothes of dirty and diseased

persons. It feeds by means of its trunk, or proboscis, which is very sharp, and furnished, towards the upper part, with a few reversed prickles. When it is engaged in sucking any animal, the blood may be seen, through the transparency of its external covering, to rush, like a torrent, into the stomach. Lice are bred from eggs, or nits as they are usually called, which the parent insects fasten to the hairs. And such is the rapidity of their increase, that it has been pleasantly, though not very correctly, said, that a Louse becomes a grandfather in four-and-twenty hours. The best mode of expelling or destroying these insects is by cleanliness, pepper, precipitate or infusion of tobacco.

21. FLEA TRIBE.

There are only two known species of Fleas : they both live on the blood of animals.

Common Flea. The strength and agility of this little insect are, in proportion, much greater than those of any other animal with which we are acquainted. It is able to drag a weight many times heavier than itself; and to leap to a distance of more than two hundred times the length of its own body. The Flea is a much less disgusting creature than the louse; and is said sometimes even to have become a favourite with ladies, who have amused themselves by keeping, taming, and feeding it. Fleas are produced from eggs, which the females stick, by a glutinous substance, to the roots of hairs, or the wool of blankets or rugs. Of these eggs they lay ten or twelve in a day, for several days successively; and they are hatched in the course of five or six days afterwards. A kind of whitish worms, or maggots, issue from the

eggs, which, after a certain time, change first into chrysalids, and then into perfect Fleas.

22. SPIDER TRIBE.

These are all predatory and voracious animals, feeding on other insects, and not even sparing their own kind. The greater part of the species form webs, for the purpose of ensnaring their prey.

House Spider. Every person is well acquainted with this insect and its webs. These are a kind of net-work, but formed in a manner very different from anything constructed by human ingenuity. The cross-threads, instead of being interwoven, are merely glued at the points where they touch. As the Spider's web lasts for a long period of time, it is necessary the insect should, every now and then, clear it from dust, which otherwise would accumulate upon it, and incommode her operations. This is done by giving it, every now and then, a strong shake with her paw. The moment an unfortunate fly is entangled in this web, the tyrant, which was before concealed from view, darts from its hiding-place, seizes it in its merciless jaws, drags it into its hold, and there sucks its blood. Spiders change their skins at certain seasons of the year.

Tarantula Spider. In various parts of Italy there is a fabulous notion, that persons bitten by these insects which are more than an inch in length, of a cinereous colour, with blackish rings on the under part of the body, are seized with a kind of madness, which is to be cured only by music. Late travellers in that country have, however, discovered that this is an imposition, and

that the persons who pretend to have been bitten, adopt this as a mode of obtaining money.

23. SCORPION TRIBE.

In their general form these animals somewhat resemble lobsters or crawfish. At the extremity of their tail they have a sting, by which they are able to inflict a very unpleasant and painful wound.

Common Scorpion. In several of the southern parts of Europe, these Scorpions are great pests to mankind. They conceal themselves in old buildings, and in dry and decayed walls. When any person approaches them they erect their tails, and have their sting in perfect readiness to strike. In some of the countries of the East they grow to such a size, as to be nearly as large as a small lobster; and it is said, that there is no removing of a piece of furniture, without danger of being stung by them. The poison passes through three small holes in the sting, one on each side of the tip, and the other at the upper part of it.

Scorpions prey chiefly on worms and insects, and are produced from eggs. They are supposed to change their skins in a manner somewhat similar to the spider.

24. CRAB TRIBE.

This tribe includes the Crabs, Lobsters, and Crawfish. They are inhabitants chiefly of the sea; but some of them are found in fresh waters, and a few in hot climates, on land.

Common or Black-clawed Crab. This is the kind of

Crab which is most commonly eaten in our islands. They come into season during the summer. They are naturally quarrelsome and ferocious animals, fighting each other with great fury, by means of those formidable weapons their great claws. Their voracity also is such, that they may be considered as the scavengers of the ocean. Dead bodies of all kinds are eagerly devoured by them. They are produced from eggs; and, at a certain season of the year, the broad flap which covers part of their belly, when lifted up, will be seen to protect from injury a great number of the ova, or spawn.

Lobster. The Lobsters with which the London markets are supplied, are chiefly imported from the coast of Norway. Lobsters are, however, very common on most of the rocky shores of our own island, where they sometimes grow to an immense size. By means of their curved tail, they are able to spring in the water to an immense distance. These animals are chiefly caught in wicker traps or baskets, in shape resembling wire mouse-traps, which admit of their entering, but prevent their return. They are considered in best season during the winter months, or from about the end of October to the beginning of May. They breed during the summer; and their eggs are said to be from twelve to twenty thousand in number. In selecting Lobsters for the table, attention should be paid to their weight, and to their shells being so sufficiently hard as not to bend under a moderate pressure of the fingers.

CLASS VI. WORMS.

ORDER I. INTESTINAL WORMS.

The animals which are arranged under this order have had their names from their simple form, and the circumstance of the greater part of them being found in the intestines, or viscera, of other animals, where they live and feed. Some, however, as the wire-worms, earth-worms, and leeches, reside in water, or in the ground. Their bodies are simple, naked, and destitute of limbs or members. There are several distinct tribes, of which the following are the principal.

ASCARIDES. These are long, round, and slender worms, somewhat pointed at each end. They are found in the intestines of men and animals. The kind called *Vermicular Ascarides*, which are so teasing in the bowels of children, are, perhaps, more generally known than any of the others. In length they seldom measure much more than an inch, and are thin, white, and smooth. They fix themselves by three points at their head, and suck the nutritive juices through an opening which is in the centre betwixt them.

FLUKE-WORMS are of an oblong and flat shape, and found in the livers and other internal parts of different animals. Fluke-worms are oftentimes found, in great abundance, in the livers of sheep, particularly in those

of sheep that have fed in marshy grounds. When very numerous, they cause a dropsical swelling of the body, and occasion the disease called the *rot*.

TAPE-WORMS derive their name from their great length, and thin and narrow shape. Some of them, extracted from the human intestines, have been known to exceed the length of sixty feet. Their bodies are composed of an immense number of joints. They are able to adhere by means of four little orifices on their head, which are situated below the mouth. These worms are oviparous or multiply their species by eggs.

EARTH-WORMS bore into and live under the surface of the ground, some of them in earth or mud, and others in the sand of sea-shores. Their bodies are furnished with numerous prickles, curved backward, which the animals are able to erect and depress at pleasure; and a slimy fluid issues from their bodies. By means of the former it is that they have their motion; and their passage is of course materially aided by the latter. These animals appear to feed and subsist on the nutritive particles of the earth, mud, or sand, in which they reside.

The **LEECHES** are a very numerous tribe. All the species are found either in water or mud. They are of a lengthened shape, but are capable of considerably altering their form by elongation and contraction. They swim with a waving motion, and with great facility. When on solid substances, they move by alternately fixing their head and tail, and extending and drawing up their bodies. They suck the blood of animals, making an orifice, for that purpose, by three sharp teeth, with which their mouth is furnished. Some of the Leeches

have living offspring ; others are produced from eggs, and, what is worthy of remark, each egg contains many young ones. Several of the smaller kinds may be multiplied by cutting them in two, each part afterwards becoming a perfect animal. The species best known is the *Medicinal Leech*, which is employed by surgeons, for the extracting of blood from the human body. It is of an olive-black colour, with six yellowish lines on its upper part, and spotted beneath.

ORDER II. MOLLUSCOUS WORMS.

These animals have their name from the soft and gelatinous nature of their bodies. The greater part of them are inhabitants of the ocean ; but several reside in fresh waters, and others on the land. Some of them, as the cuttle-fish and medusa, have the power of moving from place to place, by swimming ; others, like the slugs and aplysia, by crawling ; and others, like the amphitrites and sea-anemones, are fixed to one spot. They vary considerably in form ; but most of them have arms, or tentacula, as they are usually called, which serve them either for motion, or for the bringing of food to their mouth. The principal tribes are the *Slugs*, *Sea-anemones*, *Cuttle-fish*, and *Star-fish*.

The SLUGS are all land animals ; and several of the species are too well known, by the depredations which they commit in gardens and other cultivated ground. Some of them, however, are able to subsist for weeks, and even for months, without food ; and if their head or

tail be cut off, these parts will grow again. Their bodies are soft and slimy, and they are furnished with four tentacula above the mouth, at the extremity of the two larger of which the eyes are placed. The most familiar examples of this tribe are the *Common Black Slug*, and the *Small Gray Slug*.

The SEA-ANEMONES are animals which adhere by their base to rocks in the sea. When closed they are shaped somewhat like a cone with its extremity cut off: when open, they extend, from their upper extremity, several arms or tentacula, which are ranged in circles round their mouth. These, in some of the species, are beautifully coloured, red, blue, and white, whence the animals have had their name of Sea-anemones. They are employed in conducting food to the mouth. The Sea-anemones feed on various kinds of marine productions, and even on shell-fish. The whole interior of their body is one cavity, or stomach; and they usually eject the shells through the same orifice by which they were introduced; but if these present themselves, as it sometimes happens, in a wrong position, they actually pass through the sides, making a wound as if cut with a knife, which immediately afterwards closes and heals.

The CUTTLE-FISH are generally of an oblong, or rounded shape, and a fleshy consistence. They are furnished with eight long arms around their mouth. These arms have upon them several small circular parts, by which the animals are able to adhere strongly to solid objects. The mouth is formed somewhat like the beak of a parrot. The Cuttle-fish are able to swim, though but slowly. As they are not furnished with any weapons of defence, they would be liable to the most fatal attacks from their

enemies, were they not furnished with the following singular mode of escape. In their body there is a bag, or reservoir, which contains a dark-coloured fluid. This, when alarmed, they discharge, and as it mixes with the surrounding water, conceals them from observation and pursuit. The fluid of these animals was used by the ancients as ink ; and it is supposed that the Chinese make of it what is called Indian ink. The greater part of the Cuttle-fish are small animals, but some of them are of large size. In a very respectable French work on Natural History, one of these animals is represented in the act of seizing upon, and destroying, a three-masted vessel !!!

STAR-FISH are of a flat and circular shape, divided into several arms, and covered, on the upper surface, with a hard and tough kind of crust. Some of the species, particularly that called the *Five-fingered Star-fish*, are very common upon the sea-shores, left there by the ebbing of the tide. Their mouth is surrounded with five teeth, and is situated in the centre of the under part of the body. Beneath each of their arms there are immense numbers of soft tentacula, by which they are enabled to adhere to rocks and other solid bodies.

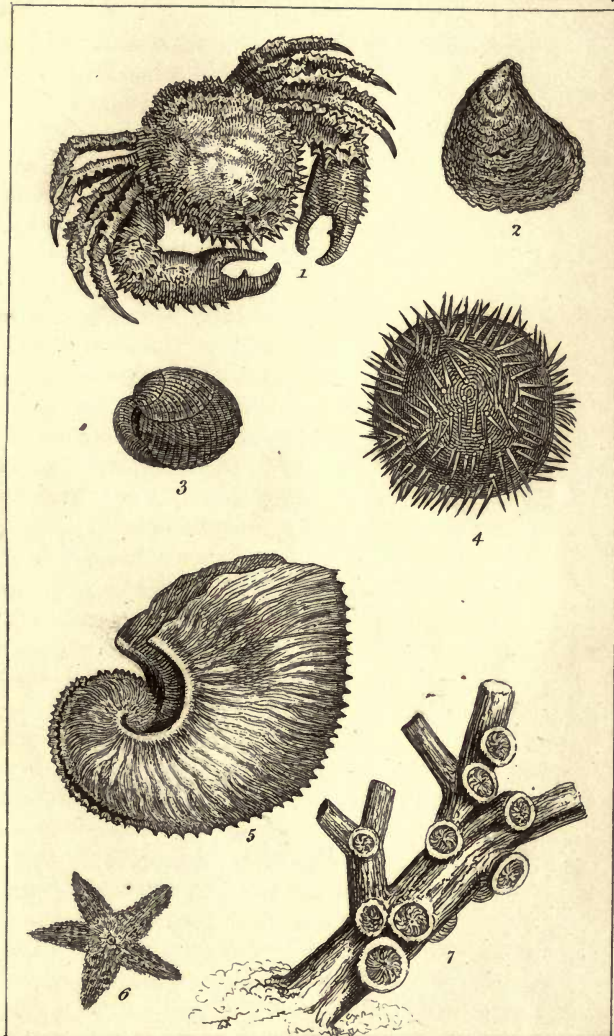
ORDER III. TESTACEOUS ANIMALS.

The name of *Shell-fish* is that which is usually, though somewhat incorrectly, applied to these animals. The shells of some of them are divided into several pieces, or valves ; others have only two of these ; and others, which, like the snails and periwinkles, have one entire shell, are

denominated univalves. The colours of some of the shells are extremely brilliant and beautiful, particularly those which are brought from hot climates. In general these animals have eggs, but some few of them produce their offspring into the world alive. The most familiar tribes are the *Cockle*, *Oyster*, and *Muscle*, which are bivalves; and the *Paper Nautilus*, *Cowry*, and *Snail*, which are univalves.

COCKLES are chiefly known to us on account of the eatable species, which abound on all our sandy shores, and are sold, at a cheap rate, in almost every place where fish are to be procured. They live in the sand, and, at low water, are dug out, in great quantity, with shovels or other implements. After this they are put into osier baskets, and soused in the water, for the purpose of clearing them from the sand which adheres to them.

OYSTERS are found in nearly all the seas of the world, and the greater part of the species are considered to be a wholesome and palatable food. Most of them adhere, by their shell, to rocks; but two or three of the species are found only upon the roots of trees in the sea, or upon the thick stalks of sea-weeds. The *Common Oysters*, which are so well known in this country, are found amongst rocks, from whence they are taken by a kind of nets, with an iron scraper at the mouth, called dredges. These are dragged over the beds by a rope from a boat; and when the animals are taken up from the sea, they are stored in pits furnished with sluices, through which, at spring tides, the water is suffered to flow. This water, being stagnant, soon becomes green, and renders the Oysters of greater value for the market. In these places they are generally stored for at least six



1. *Horrid Crab*

2. *Oyster*

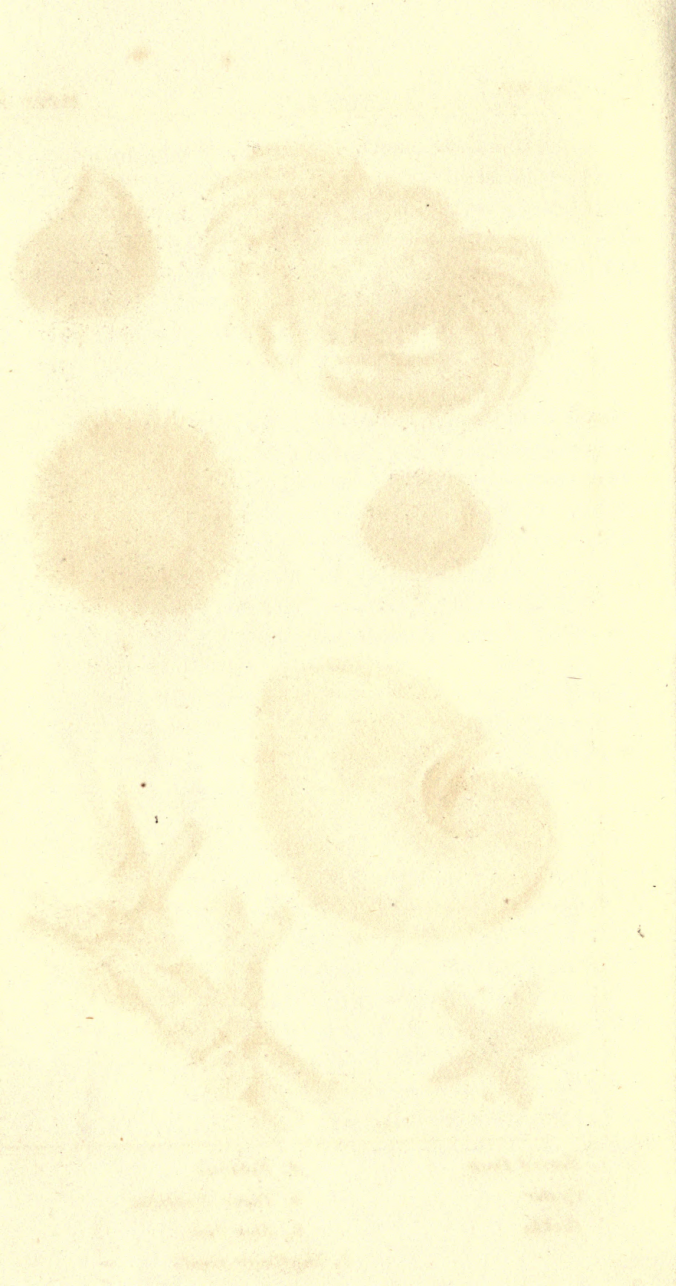
3. *Cockle*

4. *Echinus*

5. *Paper Nautilus*

6. *Star Fish*

7. *Mayflower Coral*



weeks or two months, before they are taken out for sale. Oysters are not considered to be in perfection until they are about a year and a half old; and they are out of season, and not good for the table, from the end of April until St. John's Day, that being their breeding-time. The Oyster, when first produced, is of a somewhat greenish colour, covered with a slight film or crust, and appears not much unlike the drop of a candle.

MUSCLES adhere to rocks and other solid bodies, but in a manner very different from oysters. They are furnished with a means of forming a great number of silky threads, by which, as it were, they anchor themselves, and this so strongly, that the most tempestuous weather can scarcely dislodge them. These animals subsist principally on the little earthy particles which the water transports into their shells. The *Common* or *Edible Muscle* is a well-known species, which constitutes a rich, and, generally speaking, a nutritive food. Some persons, however, have suffered great inconvenience from the eating of muscles, the best remedy for which is said to be a mixture of oil and lemon-juice.

ARGONAUT. The *Paper Nautilus* is a very beautiful species of the Argonaut tribe, which is found near the Cape of Good Hope, and in the seas of other hot climates. It is six or eight inches in length, of a white or yellowish colour, and, in substance, not much thicker than paper. The animal which occupies this shell is able, at pleasure, to raise and depress itself in the water. When on the surface it extends two of its arms upward, and employs the other six, with which it is furnished, in the place of oars and rudder, for the purpose of moving itself along. During calm weather it is said that great numbers of

these singular creatures may sometimes be observed in the act of diverting themselves, by sailing or rowing about in this manner. But, on the least alarm, they withdraw themselves, and sink to the bottom. In the early ages of the world, it has been conjectured that mankind were furnished by these animals, with the original idea of navigation.

The COWRIES are a very numerous tribe, and their shells have the utmost brilliancy and elegance, bearing some resemblance even to porcelain. Some of them are very large, and others diminutively small. They are found on the sand at the bottom of the sea, and are chiefly natives of hot climates. In shape they are generally oval, and have a narrow opening, which extends from one end to the other. Each animal is said to quit its shell after possessing it a year, and to form a new one. One kind, called the *Money Cowry*, are found on the sea-coasts of Africa and the East Indies, in which countries they are used as money ; but their value is extremely small, two thousand of them being only equal to our half-crown.

SNAILS are common in all countries. Some of the species are inhabitants of the land, others of fresh waters, and others of the sea : some of the smaller kinds are found on the trunks of trees. They feed principally on vegetable productions, and many of them have been known to continue for months, and even years, without food, and yet to survive so long a fast. They possess also a very considerable degree of reproductive power ; for even if their head be cut off, it will, in many instances, grow again. Most of them lay eggs about the beginning of summer, but a few produce living young ones. They have on the upper part of their head, four tentacula,

which are generally, though erroneously, called horns, at the extremities of the longer of which are the eyes. These tentacula they have the power of withdrawing into their body, in the same manner as the finger of a glove might be drawn in, by taking hold of it in the inside. The *Garden* and *Hedge Snails* are known to every one. There is found in the woods and hedges of Northamptonshire, a kind called the *Esculent Snail*, which is so large as to be more than two inches in diameter. This species are in great request in Germany, and some parts of Europe, as food; and are considered so delicate, that, at Vienna, the price charged at an inn for seven of them, was the same as that charged for a plate of veal or beef.

ORDER IV. ZOOPHYTES.

It has not been till of late years, that the animals of the present tribe have been completely and distinctly separated from the vegetable kingdom. They are even yet called Zoophytes, or animal plants, from their having some external resemblance to plants; but they are, in every essential respect, perfect animals. All the species are inhabitants of the sea. Most of them take root, and grow up into hard and solid stems, from different parts of which the animals appear; some, however, as the polypes and sponges, are entirely soft. The tribes most familiarly known, are the *Corals*, *Sponges*, and *Polypes*.

CORALS of all kinds are divided into numerous stony and solid branches. Their outer surface is covered with a thin substance, like bark, which is porous and fleshy;

and from which numerous animals issue, resembling polypes both in their appearance and structure. The *Red Coral* of the shops, which is manufactured into necklaces and other ornaments, is the produce of one of the species of the present tribe, and is found at the bottom of the sea, in warm climates.

SPONGES, when growing upon their native rocks in the sea, are endowed with life, and in some degree with motion. They shrink from the touch, and have the power of contracting and expanding their pores. They absorb nutriment from the fluid with which they are surrounded. The *Common Sponge* is found in several parts of the Mediterranean Sea; and, in some of the Grecian islands, the inhabitants derive a considerable part of their subsistence, by collecting it for sale.

The POLYPES are soft and gelatinous animals, which inhabit chiefly fresh water, and are fixed by a base to leaves or other substances. Their mouth is at the extremity of their body, and surrounded with numerous tentacula or arms. They are capable of considerable change of their form; and, in other respects, are amongst the most wonderful productions of nature. If cut to pieces each of the several parts will become a new animal; and, even when turned inside out, they appear to suffer no material inconvenience, as, in this state, they soon begin to take food, and to perform all their natural functions. These animals usually increase by a kind of vegetation, one, two, or more of the young ones issuing from the sides of the parent; and these also frequently have young before they drop off. Thus it is not unusual to see two or three generations at the same time, on the same Polype. The most common species are the *Long-armed* and the *Green*

Polype. The former is about an inch long, of a yellowish gray colour, with seven tentacula or arms: the latter is green, with about eight short tentacula.

ORDER V. ANIMALCULES.

This is a race of animated beings so extremely diminutive, that very few of them are visible to the naked eye, or at all discernible without the assistance of microscopes or magnifying glasses. They are principally found in water, in which some animal or vegetable matter has been steeped. There are several tribes, but it will not be necessary, in this place, to speak of more than two; viz. the *vorticella* and *vibrio* tribes.

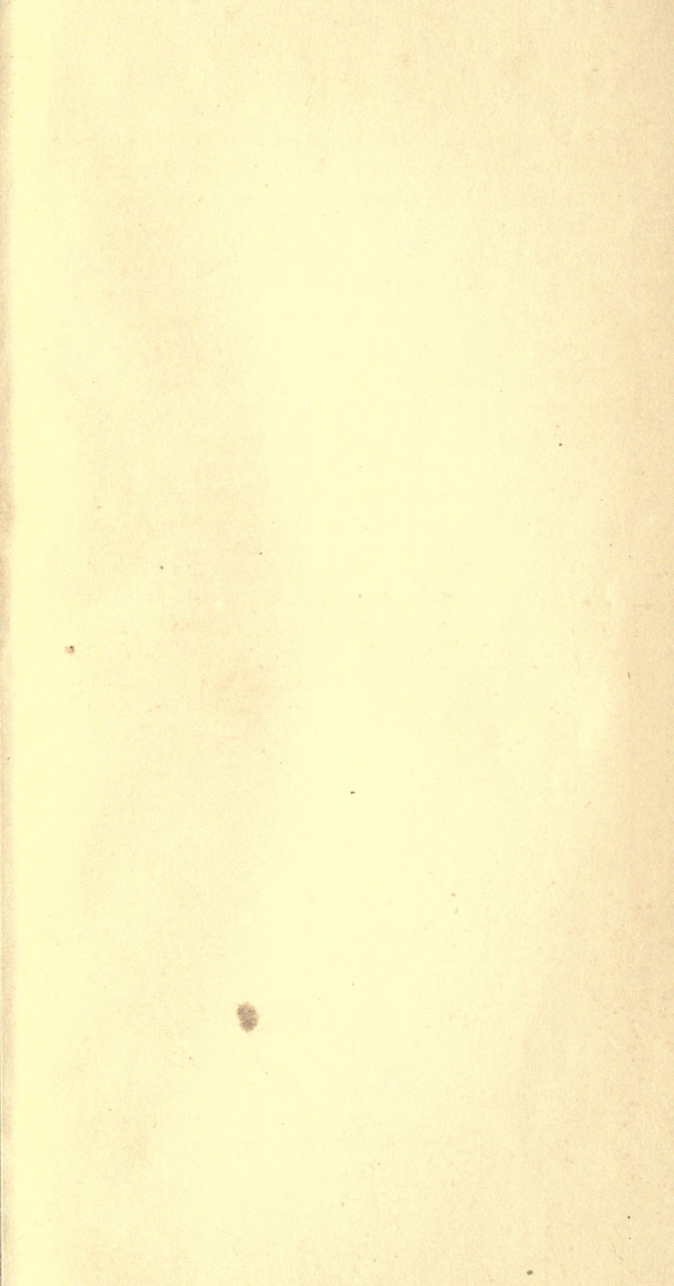
The VORTICELLÆ, or *Wheel Animalcules*, are very minute; several of the species are found in stagnant waters, and one of them, the *Common Wheel-animal*, in leaden gutters, where the water has left a reddish sediment. These are equal in size to a small grain of sand. On their upper part there are two organs, which, after having fixed themselves by the tail, they whirl rapidly round, for the purpose of conducting food to their mouth. These creatures are capable of very surprising changes of their shape, Sometimes they are of a lengthened form, sometimes globular, sometimes contracted in the middle, appearing as if divided into two parts, or shaped like a club, a tube, or a cup.

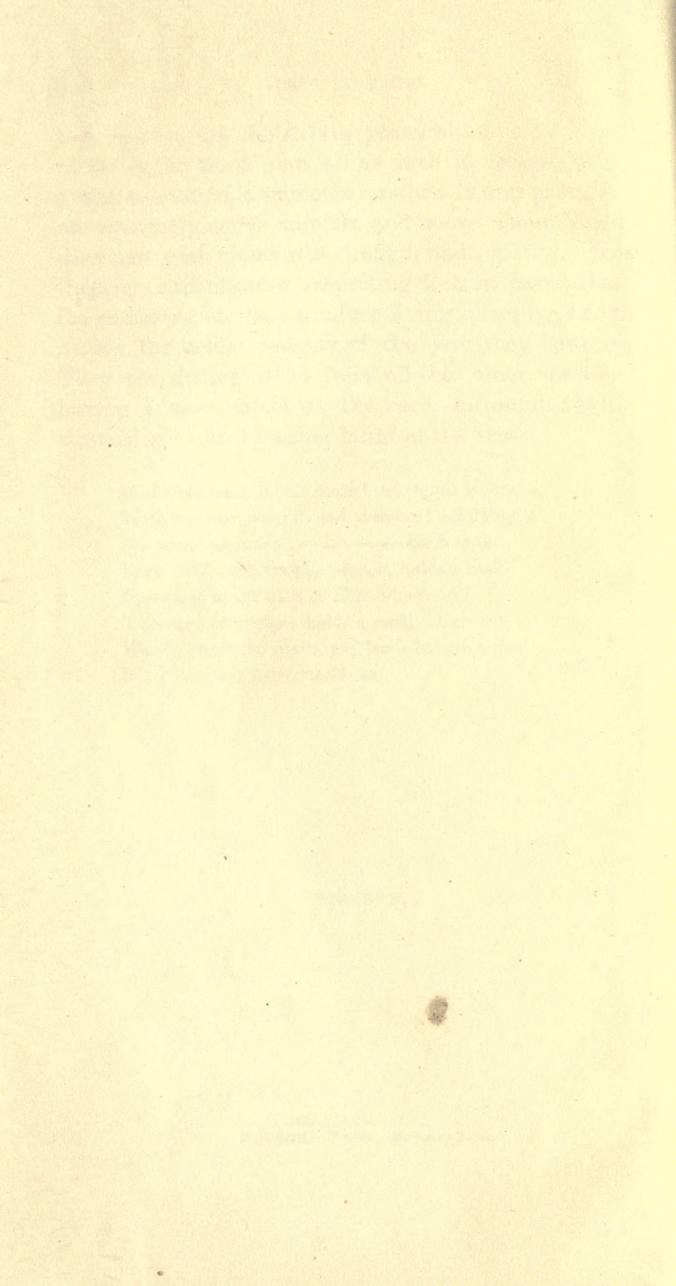
The animals of the VIBRIO TRIBE are thread-shaped, and extremely minute. The species that are perhaps the

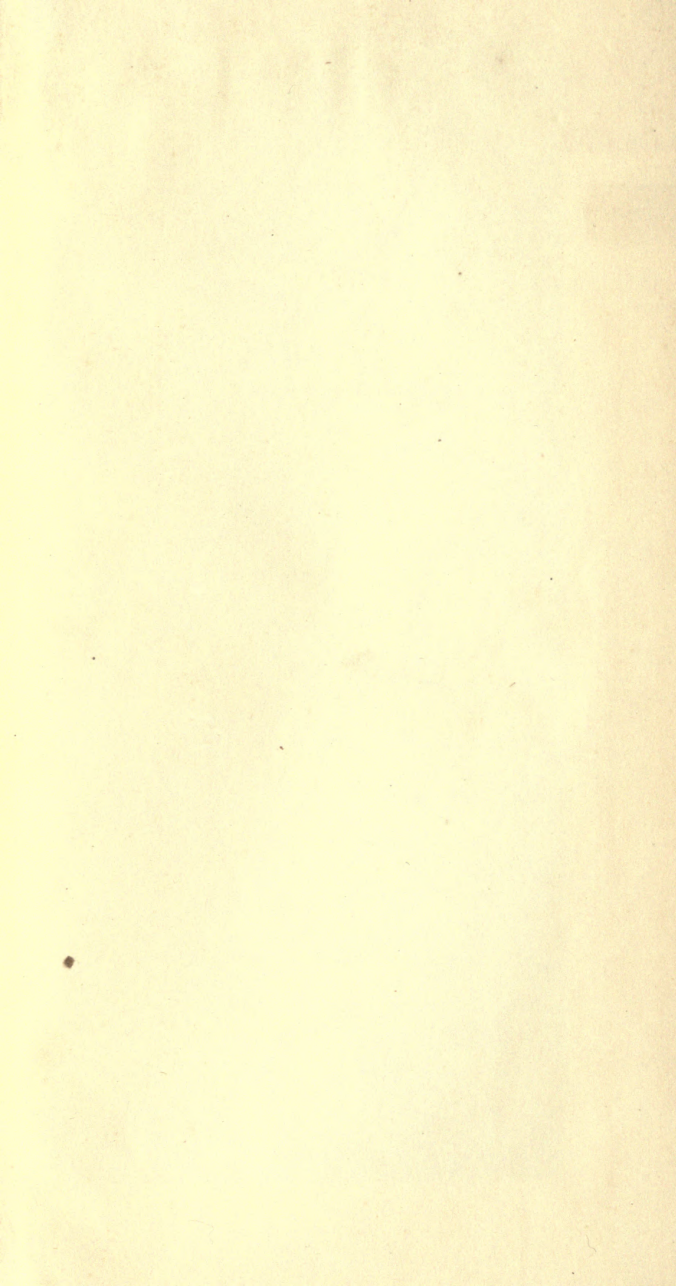
best known, are the *Eels in paste*, which are seldom so much as the tenth part of an inch in length, and are sometimes found in immense numbers in sour paste. They are extremely active animals, and move about in every direction, with wonderful strength and rapidity. It is a singular circumstance respecting Eels in paste, that in the summer-time they produce living offspring, and that during the colder seasons of the year they have eggs. They are distinguished from all the other species, by having a dark shield on the back, surrounded with a white ring; and by being blunt at the head.

How wond'rous is this scene ! where all is form'd
With number, weight, and measure ! all design'd
For some great end ! ————— Each moss,
Each shell, each crawling insect, holds a rank
Important in the plan of Him who fram'd
This scale of beings ; holds a rank, which lost
Would break the chain, and leave behind a gap,
Which Nature's self would rue.

THE END.







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